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Ontario

Ministry of
Natural
Resources

Annual Report of the Minister · 1975

ANNUAL REPORT

OF THE MINISTER
OF NATURAL RESOURCES
OF THE PROVINCE
OF ONTARIO
FOR THE FISCAL YEAR
ENDING MARCH 31, 1975

TO HER HONOUR,
The Lieutenant-Governor
of the Province of Ontario

MAY IT PLEASE YOUR HONOUR
The undersigned begs respectfully to present to your Honour the Annual Report of the Ministry of Natural Resources for the fiscal year beginning April 1, 1974, and ending March 31, 1975.

Leo Bernier

LEO BERNIER
Minister

Ontario

Ministry of
Natural
Resources

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DIVISION OF FORESTS

FOREST RESEARCH BRANCH

The Branch provides scientific and technical information to improve the management of forest resources in Ontario.

The hybrid poplar program deals with breeding and testing for fibre and biomass production in short rotations of one to 10 years, and with the growing of poplar for lumber on lowland and upland sites in southern Ontario. In northwestern Ontario, poplar studies deal with the immediate problems of regenerating aspen by suckers and with long-term management. Site relationships, root development, nutritional aspects, nutrient content and wood quality are being examined.

In spruce research, the production of improved seed of black and white spruce for artificial regeneration is a major consideration. This program includes selection of seed production areas and plus trees, mass production of superior stock through vegetative propagation, provenance studies, and the effect of fertilizers on seed production. Genecological and productivity studies in the spruce genus are aimed at: elucidating the contribution of species, provenances and hybrids in productivity systems; determining genetic variability, crossability and heritability; evaluating the effect of seed zones (regions) in productivity systems; and determining the validity of moving spruce stock between regions. Studies on the ecological productivity of the spruce forest ecosystem have been accepted as part of the Canadian contribution to the International Biological Program (IBP). Growth and foliar nutrient measurements were made in black spruce stands of the Interprovincial Forest Fertilization Program.

Genetic improvement of eastern white pine is aimed at improving the growth characteristics and resistence to blister rust and weevil through selections from natural stands and breeding with exotic pines. For hard pines, improvement of growth characteristics is sought by development of hybrids. Methods to identify hybrid species through needle anatomy are being developed.

Stem and root growth of red pine is studied in relation to moisture supply in sandy soils with or without a water table. Several fertilizer experiments in red pine are in progress. Yield tables for managed red pine have been reexamined in light of the much heavier, thinning regimes now practiced.

For forest nurseries, a germination and transplanting technique was developed to avoid severe shock to young germinants. Other nursery programs dealt with determination of frost hardiness and dormancy of nursery stock, internal moisture response of stock, changes in nutrient content of stock after planting, and handling and outplanting of nursery stock.

Growth data from mixed hardwood stands on a wide variety of sites are being analyzed. Clonal silver maple material was propagated and outplanted in lowland areas. Ecological and physiological factors, which control the quantity and quality of tolerant hardwood forests of south-central Ontario, are being studied in the laboratory and the field.

Assistance was given to programs involving mapping and classification of forest fuel, and to the Chemtard program, which is concerned with the assessment of chemical suppressant and retardant materials and their application to forest fires.

FOREST MANAGEMENT BRANCH

The objective of the Branch is to produce optimum and continuous industrial, social and environmental benefits from public forests, and to encourage and assist similar production on private lands in Ontario.

TREE SEED

Inventory, June 1, 1974	2,421,000,000 viable seeds
Distributed 1974-75	826,000,000 viable seeds
Collected	13,886 hectolitres

This collection is three times the collection made in 1973. However, seed is still in short supply and increased collections will be required in 1975 to meet requirements of the production policy.

TREE IMPROVEMENT

Plus trees, Collected	6,300 scions
Planted	3,200 grafted trees
Seed Collection Areas*	3,150 acres
Seed Production Areas	570 acres
Seed Orchards	180 acres

**A new term used to describe superior stands of jack pine which are reserved and logged periodically to supply the seed required, and regenerated with the same seed source to maintain them as gene pool reserves.*

This program is designed to improve seed quality and increase the quantity of available tree seed to meet the requirements of the production policy.

PLANTING STOCK

Distribution, Conifers	57,342,900
Hardwoods	2,451,550
Total	59,794,450
Production Targets Seeded	74,279,000

The reduction in planting stock distribution and production is due to an increase in other methods to obtain regeneration on Crown lands (and meet production targets) such as direct seeding, modified harvest cut, etc. (See table on regeneration and tending).

DEVELOPMENT

Field tests were carried out in Northeastern, Northern and North Central Regions on the Ontario Mark III planter throughout the summer months.

A second prototype of a multi-row nursery stock lifter was built for the Ministry by Hovey Associations of Ottawa in readiness for testing during the spring of 1975.

Work began on converting a used cigarette machine, which was obtained without charge from Imperial Tobacco Company, Montreal, to a machine for producing soil-filled containers for growing tree seedlings.

Other new equipment designed and built included a twin-flail scarifier and V-blade for site preparation, and a packing wheel attachment for a Bracke cultivator.

PRIVATE LANDS

The Woodlands Improvement Act	No. of Agreements	Acres
New Agreements activated 1974-75	461	17,215
Agreements in effect to March 31/75	3,675	190,847 ✓
Number of Trees Planted		7,955,515

(See table on regeneration and tending for silvicultural operations, under the W.I.A.)

These operations are carried out on private land under Woodland Improvement Act agreements. The acreage treated is an integral part of forest production targets, particularly in Southern Ontario, where there is no significant Crown land area.

ADVISORY SERVICES

1. Number of public inquiries serviced	40,001
2. Number of field inspections made	5,478
3. Number of forest management programs prepared	429
4. Total area for which management programs were prepared	30,245 acres
5. Trees purchased and planted by private landowners	9,886,524
6. Timber marked for harvesting:	
Sawtimber	2,546,104 cu.ft.
Pulpwood	12,528 cords
7. Activities with youth groups	350 groups
8. Public education activities and services	1,495 items
9. Days of forestry instruction provided to schools, colleges, universities	482 days

The above data are a measure of the forestry extension program offered to all landowners. A change in landowner management practices is desired to ensure the establishment and maintenance of private forests for the production of forest products and forest values.

AGREEMENT FOREST

Agreement with	Acres Added	Acres Released	Total
1 Government of Canada			3,532.00
24 Conservation Authorities	427.43	107.00	92,282.97
19 Counties	1,069.23	126.78	144,918.07*
11 Townships			3,229.24
5 Regional Municipalities	8.22	8.35	11,953.36*
60 Totals	1,504.88	242.13	255,915.64

**Acreage figures have been adjusted because of changes from Counties to Regional Municipalities.*

The above agencies have forest management agreements with the Minister under authority of the Forestry Act. These forests are an integral part of forest production targets, of particular importance in districts with no significant Crown land areas.

PEST CONTROL

The most destructive of all the forest insects and diseases in 1974 was the spruce budworm which infested balsam and white spruce trees on a gross forested area of 24 million acres. Most of this acreage was in the north-central, north-eastern, and south-eastern portions of the Province. After a careful assessment of values to be protected, spraying operations to control the insect were confined to approximately 48,000 acres of Crown land. The insecticide used was Zectran, at a rate of 1.2 ounces of active material in 19.2 fluid ounces of spray mixture per acre. In addition, a small acreage was sprayed with the biological bacillus insecticide.

Other pest problems requiring control treatments were the white pine weevil, several species of sawflies of pines and spruce, white grubs, the blister rust of white pine, the annosus root rot, and mice. A total of 10,000 acres was treated to control these problems.

CLASSIFICATION OF CUT-OVER FOREST ON CROWN AND PATENT LAND, 1974-5

Areas in Acres

Cutting Method	Regeneration Required	Satisfactory Natural Regeneration	Total
Clear Cut	240,887	116,467	357,354
Selection Cut	–	61,720	61,720
Partial Cut	–	57,260	57,260
Total	240,887	235,447	476,334

137
57,322

10,866
74,979

REGENERATION AND TENDING, 1974-5 **Areas in Acres**

Treatment	Crown Land	Agreement Forests	W.I.A.**	Sub-Total	Other Patent Lands	Total
REGENERATION						
Planting Nursery Stock	55,952	1,370	10,167	67,489	6,419	73,908
Container Stock	5,353	–	–	5,353	–	5,353
Seeding	59,869	–	–	59,869	–	59,869
Modified Harvest Cut	19,906	135	–	20,041	–	20,041
Scarification	11,314 2,739	–	6	11,320	–	11,320
Seed Trees	11,519	–	–	11,519	–	11,519
Total	163,913	1,505	10,173	175,591	6,419	182,010
TENDING						
Hand Cleaning	12,446	1,468	34	13,948	25	13,973
Herbicide Spraying	21,241	766	380	22,387	–	22,387
Thinning Improvement Cuts	28,600	6,800	5,114	40,514	1,441	41,955
Pruning	1,341	830	576	2,747	–	2,747
Fertilization Drainage	485	1,002	44	1,531	–	1,531
Total	64,113	10,866	6,148	81,127	1,466	82,593
TOTAL AREA TREATED	228,026	12,371	16,321	256,718	7,885	264,603
Site Preparation For Seeding, Planting or Modified Harvest Cutting	76,863	778	2,310	79,951	25	79,976
*Tree Marking	87,269	6,054	6,708	100,031	8,209	108,240

**Marking, previously included in tending, is shown separately to avoid distortion of total tending and total area treated.*

***W.I.A. is private land managed under the authority of The Woodlands Improvement Act.*

TIMBER SALES BRANCH

The major responsibility of the Branch is the orderly disposition of the Crown timber resource through the administration of major sections of The Crown Timber Act. This is accomplished by the review and approval of forest management plans, the allocation of Crown timber to forest industry through various methods, the licensing of forest industry mills, the measurement of the volume of harvested wood, and the monitoring of the relatively constant and the variable factors affecting the viability of the provincial forest industry.

Forest Management Plans

Forest management plans provide the broad framework within which forest operations are conducted. More detailed operating plans for shorter time periods identify the stands to be harvested, regenerated and tended, and the roads and other improvements required on the Crown, company and agreement forest management units.

STATUS OF MANAGEMENT PLANS

(Areas in Square Miles)	Forest Management Units Crown No.	Area	Company No.	Area	Agreement No.	Area
Approved Standard Plans	40	32,121	2	6,653	26	197
Plans being prepared and revised	31	44,653	29	72,694	34	201
Inventory required	8	9,041	–	–	–	–
Inactive and inaccessible or not under plans	9	24,292	–	–	–	–
Total	88	110,107	31	79,347	60	398

Timber Allocation

Crown timber is allocated to the provincial forest industry with respect to sustained-yield forest management and industrial requirements. Crown timber harvesting licences provide the forest industry with the legislative authority to harvest timber on Crown land on an annual, allowable harvest basis. The licences take one of several major forms and are specific as to geographic area, tree species, volumes, stumpage and other charges, and various control measures.

CROWN TIMBER LICENCES

Areas under Crown Timber Licences As at March 31, 1975	Number	Square Miles
Under Section 2, Crown Timber Act	45	280.5
Under Section 3, Crown Timber Act	424	96,923.8
Under Section 5, Crown Timber Act	11	51.7
Total Area under Licences	480	97,256.0

Forest industry mills are licensed to operate with respect to the Crown and private timber supply available in a specific locality.

MILL LICENCES	1971	1972	1973	1974
Sawmills, 8 hour capacity				
Lumber, capacity over 50 M fbm	35	41	71	60
Lumber, capacity 10 to 50 M fbm	79	88	97	104
Lumber, capacity under 10 M fbm	560	536	542	570
Miscellaneous	115	83	49	40
Veneer Mills	27	29	25	26
Pulp Mills	24	23	24	24
Total	840	800	808	824

Wood Measurement

The measurement of harvested wood, or scaling, determines the volume of wood removed from Crown land and Agreement Forests. It is the basis for public revenue determination and forest production statistics related to the forest industry. Only Ministry Licensed scalers may carry out this function. New measuring techniques, such as weight and sample scaling, are being continually developed and improved. Approximately 43 per cent of the wood is measured by the companies under a domestic scaling licence. Approximately 21 per cent of the total wood cut is weight scaled.

Forest Industry Development

This section follows the growth and development of the many components of the provincial forest industry by monitoring the demand for and supply of wood products and the pattern of world trade in these commodities, and by analyzing resource taxation and pricing to maintain a viable industry. It assists in industrial expansion and regional development through industrial liaison, policy development, and economic analyses.

PULP CHIPS

	ONTARIO PRODUCTION		CONSUMPTION OF ONTARIO CHIPS	
Ontario 1974	No. Mills	Volume b.d.t.	No. Mills	Volume b.d.t.
Ontario	112	1,457,195	17	1,199,440
Quebec	–	–	5	180,242
Manitoba	–	–	1	5,535
U.S.A.	–	–	7	71,978

VOLUME AND VALUE OF WOOD CUT FROM AGREEMENT FORESTS, 1974-5

Products	Cubic Feet	Value
Sawlogs, Poles, Posts....	326,033.52	$ 87,978.36
Fuelwood....................	103,020.85	8,992.24
Pulpwood....................	1,400,971.70	68,495.01
Miscellaneous..............		1,904.66
Total..........................	1,830,026.07	167,370.27

VOLUME AND VALUE OF WOOD CUT FROM CROWN LANDS, 1974-5

Tree Species	Volume (Cubic Feet)	Bonus	Crown Dues	Stumpage Value
SOFTWOODS	$	$	$	$
White Pine	16,658,218.53	589,661.85	922,959.32	1,512,621.17
Red Pine	7,218,386.99	235,145.83	397,334.47	632,480.30
Jack Pine	154,346,139.65	365,874.65	7,788,314.69	8,154,189.34
Pine, Mixed	12,687.95	231.30	541.36	772.66
Spruce	249,506,451.58	793,538.27	12,836,450.22	13,629,988.49
Hemlock	1,204,118.74	14,516.63	68,245.58	82,762.21
Balsam	15,541,294.71	70,990.58	769,808.16	840,798.74
Cedar	478,273.36	9,428.09	22,996.92	32,425.01
Tamarack	165,429.64	1,129.48	8,814.34	9,943.82
Softwoods, Mixed..............	136,240.70	387.62	3,042.76	3,430.38
Softwoods, Total................	445,267,241.85	2,080,904.30	22,818,507.82	24,899,412.12
HARDWOODS				
Maple	8,268,159.35	168,476.24	568,582.03	737,058.27
Yellow Birch......................	4,023,607.03	220,752.90	326,650.56	547,403.46
White Birch........................	2,764,271.42	37,495.33	32,444.42	69,939.75
Oak.....................................	247,546.26	9,010.18	15,153.09	24,163.27
Beech..................................	354,103.53	10,588.80	24,321.98	34,910.78
Ash	30,156.99	1,205.83	1,846.07	3,051.90
Elm.....................................	80,071.27	4,524.32	6,673.19	11,197.51
Basswood............................	274,661.61	9,974.67	16,402.60	26,377.27
Butternut............................	951.43	35.55	66.13	101.68
Cherry	18,605.64	309.61	1,695.71	2,005.32
Poplar	38,031,846.74	145,164.12	426,397.26	571,561.38
Hardwoods, Mixed.............	13,398,973.30	87,680.66	151,012.65	238,693.31
Hardwoods, Total...............	67,492,962.23	695,218.21	1,571,245.69	2,266,463.90
Total	512,760,204.08	2,776,122.51	24,389,753.51	27,165,876.02

DIVISION OF MINES

MINERAL RESOURCES BRANCH

The prime objective of the mineral Resources Branch is to assure the orderly development and optimum use of provincial mineral resources in line with the Ministry's policy of broadening the base of mineral development and processing in Ontario. The most important function of the Branch is to provide the Minister with in-depth researched information and mineral policy options as well as to ensure equitable mining tax assessments.

Major areas of responsibility for the Branch are established as follows:

(a) Determination of an inventory of the province's mineral resources and its commercially viable reserves;

(b) Continuing analysis of the reserve position against present and projected world supply and demand for minerals;

(c) In-depth studies of mining and exploration companies and their decision-making process;

(d) In-depth mineral commodity studies on each mineral element in provincial reserves with priorities set for nickel, copper, zinc, iron ore, uranium and precious metals;

(e) Economic studies of metal and mineral markets and factors affecting Ontario's output;

(f) Continuing preparation of programs to assist in mineral resource development;

(g) Analysis of the effectiveness of present public policies in respect of mineral resource development;

(h) Federal-Provincial liaison on mineral resource problems;

(i) Studies on economic behaviour of multi-national mineral resources companies;

(j) Long-term planning of resource development;

(k) Development and administration of mineral resources policies;

(l) Detailed analysis of the existing system to develop a sound mineral taxation policy; and

(m) Administration of The Mining Tax Act.

Petroleum Resources Section

The Petroleum Resources Section is responsible for a wide range of activities associated with the exploration, drilling and production of oil and gas in Ontario. These functions include the conservation and proper development of Ontario's petroleum resources, environmental controls, and safety. Scientific data, both geological and engineering, are collected and processed for all wells drilled in the province, and such data are used to prepare various publications, reports and maps to encourage the proper and equitable development of Ontario's petroleum resources.

The Section's staff of 19 includes qualified geologists, reservoir engineers and inspectors. As an integrated regulatory and scientific agency, it is able to advise Government on all problems arising from legislation, and the wide variety of technical and scientific problems related to oil and gas exploration and development in both Ontario and other areas of Canada.

Under authority of The Petroleum Resources Act, all information collected in the drilling of wells must be submitted to the Section. This information is submitted as analyses, engineering and geological reports, and reports required of the various licences issued. All data are validated by the inspection staff, and interpreted and transcribed by the geologists and engineers into more readily accessible forms by way of hard copy documents, microfilm and computer output for both internal and industry use.

The Section, through its draughting unit, also compiles and constructs 15-minute quadrant maps for southwestern Ontario showing all oil and gas wells and regulation spacing areas. These are updated weekly and made available to industry.

The geological staff and the repository facilities are located in London, and during the year were administratively placed within the regional concept, although their technical functions remain under main office direction.

Core and drill-cutting samples from all wells drilled are forwarded to the repository where they are processed, examined and stored. The repository is utilized by the petroleum resources geologists and engineers (to research material for various publications and annual reports), and by industry and universities.

To the end of 1974, the Section had issued 2,498,270 acres under licence in lake Erie and 175,955 acres under production leases to a total of seven operators.

During the year, 170 wells were drilled, including 53 wells in Lake Erie. Off-shore operations are closely scrutinized, and the inspection staff normally operates on a 24-hour basis, staying aboard the drilling vessel during much of the operation.

Since 1858, more than 100,000 oil and gas wells have been drilled in Ontario, and many have never been properly plugged. As a result, the inspection staff through government funding, administers the plugging of hazardous wells on priority basis, and in turn work closely with T.E.I.G.A. and other agencies in this regard.

All data and information acquired during exploration, drilling and production operations are submitted on a monthly or annual basis as required by regulation. Much of the statistical data and other pertinent information from Statistics Canada are processed for the Section by the Energy Studies Section of the Ministry of Energy. These data are in turn published in the Section's annual report.

Metallic Minerals Section

The main objective of the Section is to provide effective metallic mineral policy options for the Division of Mines.

The secondary objective is to provide effective and practicable solution alternatives to metallic minerals problems as they arise.

Detailed analysis of metallic minerals commodities produced in Ontario are continuing. These review supply and demand relationship, price movements, technology, uses and problems on a world-wide basis since minerals and metals are sold on world markets.

A report entitled "The Impact of Taxation and Environmental Controls on the Ontario Mining Industry" was released.

A considerable percentage of the Section's time is expended in detailed analysis and recommendation of alternative solutions for problems that affect the metallic minerals sector of the economy.

The problems range from assisting on task forces and committees to review of external consultant's reports and problems related to The Ontario Mining Act and The Mining Tax Act. Many of these problems command evaluation of the commodities involved and as such form the initial input into broader commodity studies.

Liaison has been established with the federal government and the U.S.A. and state governments on mineral matters of mutual concern. As well, there is continuing contact with mining companies and other public and private agencies.

The Section participated in the assessment in detail of Ontario's uranium resources during 1974. Expansion of this initial mineral inventory into other important metallic mineral commodities is on-going. This will be a long-term study and eventually form an important part of the data base for analysis and formulation of policy options.

Industrial Minerals Section

The Section has two major functions: Providing the input necessary to fulfill the role of the Branch in presenting industrial (non-metallic) minerals policy options for the Province; and administering The Pits and Quarries Control Act.

The policy function will be developed on a progressive basis to deal in turn with each industrial mineral and rock commodity by implementing the processes outlined as major areas of responsibility for the Branch.

The Section's function in administration of the Act involves a dual role. On the one hand, consultation and guidance are provided to the Ministry's field offices which, through their pits and quarries inspectors, are responsible for implementing the requirements of the Act. On the other hand, the Section processes applications for, and renewals of, pit and quarry licenses received through the field offices for recommendation to the Minister.

A total of 124 townships were designated under the Act as of March 31, 1975. Understandably, the majority of staff time has been taken in liaison with the inspectors, processing the many applications, explaining the Act and its purposes to applicants in personal and telephone interviews, and participating in various relevant meetings.

By March 31, 1975, a total of 862 licences had been issued.

Minerals Economics Section

The Section has absorbed the pure economic research functions formerly carried out by the Metallic Minerals Section. Its responsibilities are as follows.

1. Annual survey and preparation of open-file reports on mineral industry operations and mineral industry statistics.
2. Collection and analysis of national and international data on all metals and mineral commodities, prices, markets, consumption trends tariffs, duties and export-import restrictions.
3. Economic and statistical research as an input to the development of mineral policy options. Analyses of the effect of mineral policies on labour and capital markets.
4. The format of the Mineral Information Bulletin for internal use is currently under revision.
5. Administration of economic and statistical research contracts.

In 1973, publication of the annual report on mineral industry operations and the annual statistical report on mineral production of Ontario was suspended, but, the information and the statistical data previously published in these reports have been made available to the interested public on an open file. By the end of the year, the open data file on mineral industry operations was completed for the year 1973, and the statistical data on mineral production of Ontario were tabulated for 1972. There were delays in reporting by some responding mining companies, but statistical data for 1973 have been made available by the end of June 1975.

The Section continued publication of a mineral information bulletin for internal use and embarked on a major project of creating and maintaining a loose-leaf reference handbook giving a total run-down on each Ontario mineral commodity in a world-wide context, and on converting the 1973 output data to the metric system.

The Section also provided services in the field of mineral economics and statistics to ministry staff, other government agencies and the interested public.

Mining Assessment Section

The Mining Tax Act is administered by the mine Assessor who also has the responsibility for the development of alternative taxation policies.

Much of the past fiscal year was spent in the development of The Mining Tax Amendment Act, 1974, and in writing the Regulation thereunder which reflect a major change in government policy toward mine taxation. The previous system, which levied a tax on the profits of producing mines at the rate of 15 per cent if the profit exceeded $50,000, was in force until April 9, 1974. After April 9, taxation was on a graduated scale rising to 40 per cent on those profits which were in excess of a statutory exemption of $100,000 but a more generous system of allowances on profit on mineral processing was also added. A method of tax calculation was provided in the Act to apply to the situation where taxpayers had taxation years ending after April 9, 1974.

During the year, many studies were undertaken on problems arising from the new Act, and 24 assessments were issued.

GEOLOGICAL BRANCH

The Geological Branch provides information on the geology and mineral resources of Ontario to encourage exploration and development of mineral wealth by the mining industry, and as a basis for land-use and transportation-route planning, and the development of non-renewable resource utilization policy.

Geological, geophysical and geochemical surveys identify favourable locations for mineral and aggregate deposits and provide increased knowledge and understanding of the geological history of Ontario. Existing data on mineral deposits are being compiled, and new studies have been initiated. Educational programs and published reports and maps are available to the public.

The Branch administers the Mineral Exploration Assistance Program (MEAP) whereby the Government reimburses an individual or company one-third of the cost of an approved exploration expenditure (maximum $100,000) in any of five designated areas.

PRECAMBRIAN GEOLOGY SECTION

During the summer of 1974, 22 field parties undertook interpretive mapping of rock formations of the Precambrian Shield. A total of 1,400 square miles was mapped at a scale of one inch to one-quarter mile for publication at one inch to one-half mile. Four reconnaissance and compilation projects covering 1,200 miles were carried out for publication at one inch to one mile. Operation Kenora-Sydney Lake, a helicopter supported reconnaissance project, covered more than 6,500 square miles for publication at one inch to four miles. Three compilation sheets (one inch to four miles) were under revision. On the basis of field area location, the geologists of the Section are divided into North Archean, Central Archean, South Archean and Proterozoic mapping groups.

PHANEROZOIC GEOLOGY SECTION

During the summer of 1974, eight field parties carried out mapping projects. One field party completed mapping of the Paleozoic formations of the Fort Erie-Dunnville area. Seven parties mapped the Quaternary geology of the Beardmore, Hawkesbury, Merrickville, Barrie, Wingham, Grand Bend and Grimsby areas. Seven mineral resource surveys were completed at the request of municipalities, and an aggregate resource inventory of the Ottawa-Carleton area was carried out.

GEOPHYSICS/GEOCHEMISTRY SECTION

Geophysical surveys carried out in 1974 included ground magnetic and gravity surveys in the Sturgeon Lake area. Combined geochemistry-Quaternary geology surveys were carried out in the Beardmore-Geraldton, Killala Lake and Prairie Lake areas. A reconnaissance geochemical survey of lake water and lake sediments was carried out in the Elliott Lake area. The section also planned and co-ordinated the following contracted surveys: aeromagnetic survey in the Bamaji-Fry Lakes area, airborne electromagnetic survey in the Matachewan area (funded by the Ministry of Treasury, Economics and Intergovernmental Affairs) and seismic-resistivity surveys in the James Bay Lowlands for preliminary assessment of fossil fuel potential. Development of computer based techniques for the processing and interpretation of geophysical and geochemical data was continued.

MINERAL DEPOSITS SECTION

The Mineral Deposits Section studies deposits of both metallic and non-metallic minerals, their distribution, geology, reserves and potential. An important role is to provide reserve data and resource potential estimates for use in government planning, particularly for land use, parks and transportation corridors, and as background for studies by the Mineral Resources Branch. With the Mineral Resources Branch, the Section drew up an Ontario Mineral Resource Classification scheme and co-operated in the National Uranium Resources Appraisal Program. It also carried out preliminary studies of zinc and iron resources. Studies included a revised Mineral Map of Ontario (prepared with co-operation of the regional geological staff and published), a series of metal distribution maps (uranium-thorium maps published), a series of mineral potential maps, the final volume of Gold Deposits of Ontario, an amethyst guidebook, clay and shale studies, and an industrial minerals study of the Moose River Basin.

SPECIAL PROJECTS SECTION

Government payments under the Mineral Exploration Assistance Program (MEAP) for the fiscal year were $307,963 with a total government expenditure in the past four years of $1,403,547. The Atikokan area was added to the previously designated areas of Kirkland Lake, Cobalt-Gowganda, Geraldton-Beardmore and Red Lake. Section activities included co-ordination of a geological, geophysical and drilling program in the James Bay Lowlands; compilation of Geological Branch publications and exploration activity in selected areas; and preparation of two Open File Reports, one listing occurrences of float, placer gold and indicator minerals for kimberlite and the other covering MEAP through March 31, 1974.

REGIONAL AND RESIDENT GEOLOGICAL PROGRAM

During the 1974-75 fiscal year, Regional and Resident Geologists' offices were maintained at Kenora, Red Lake, Sioux Lookout, Thunder Bay, Sault Ste. Marie, Sudbury, Timmins, Kirkland Lake, London and Richmond Hill. New offices were established at Huntsville and Kemptville.

Regional and Resident Geologists are part of the field organization, responsible administratively to the Region and technically to Geological Branch. Their principal function is to provide a consultative service to the Provincial Government, the people of Ontario, and the mining industry on the geology and mineral deposits of the Province.

GEOSERVICES SECTION

The Geoservices Section includes five units, named below.

The *Scientific Review Office* is responsible for the scientific review, editing and publication of all geoscience reports and preliminary maps. The following were printed during the year:

Geological and Geophysical Reports	11
Open File Reports	21
Miscellaneous Reports and Publications	8
Coloured Geological Maps	26
Preliminary Maps	75
Index Map	1

In addition, 41 reports were in progress and under review, and several hundred figures were drawn by the drafting unit.

The *Geoscience Data Centre* performs tasks related to the gathering, research, compilation and computer processing of geoscience data on mineral deposits of Ontario; indexes publications released by the Geological Branch and reports submitted for assessment work credit; and within its means investigates and improves upon existing data handling systems.

During the year, 1,800 documents were indexed for computerized storage in the Ontario Index to Geoscience Data. These consist of current MEAP reports, assessment work reports (updates and for the period before 1960), Branch geoscience publications up to March 1975 and ODM Annual Reports 1928-1948. Computer retrieval from the Ontario Index produced the base for an Open File Report, Index to Exploration Reports filed in 1974.

The Centre compiled 120 Mineral Deposits Records for iron deposits with reserves, and updated or compiled 41 for uranium deposits. All 170 Mineral Deposit Records for base metals compiled previously were computerized as well as the first 13 Mineral Deposit Records for iron deposits.

The *Geoscience Information Office* conducts classes of instruction on geology and exploration technology, and prepares information pamphlets and guidebooks on the geology of Ontario. A number of mineral education courses, including two field courses, were conducted, and Junior Ranger camps were visited during the summer.

The *Assessment Files Research Office* operates, for public use, a library containing all technical surveys filed for assessment credit, prospectuses and summary reports received from the Ontario Securities Commission and technical surveys filed in accordance with the Mineral Exploration Assistance Program (MEAP). During the fiscal year, 4,457 enquiries were received, 5,966 control maps were pulled and 10,801 files were retrieved.

The *Technical Services Office* expedites the requisitioning, purchasing, storage and maintenance and cataloguing of all field equipment, vehicles, furniture and scientific instruments for the Geological Branch. In addition, it arranges for the storage of thin sections and rocks submitted by staff geologists.

MINES ENGINEERING BRANCH

The function of the Branch is primarily the administration of part IX of The Mining Act and other codes and regulations dealing with the health and safety of workers. There were 24 engineers on the field staff during the year examining all operations in 107 mines, and 1,700 pits. Besides the investigation of accidents, fires, unusual occurrences and numerous union complaints, routine inspections, and examination of engineering design for underground and surface plants were carried out.

There were 24 fatal accidents in a work force of 44,673, giving a rate of 0.29 deaths per million work hours.

Compensable accident frequency of 52 per million work hours rose slightly. the number of shaft hoisting accidents decreased by about 10 per cent. Accidents with mobile equipment underground rose slightly.

During the year, the world's largest raise, 25 feet in diameter and 2,000 feet in length, was completed without a lost time accident. This was carried out to improve ventilation in one of the province's large uranium mines.

In the Elliot Lake mining area, surveys were carried out for dust and radiation in every working place. At the same time, a health survey was conducted involving over 1,000 workers. Sputum tests for the early detection of cancer were also done for many underground workers on a voluntary basis.

A Royal Commission under Dr. James Ham was set up to investigate the health and safety of miners in Ontario. The Commission held hearings throughout Ontario, beginning in early January, 1975. The report of the Commission is expected in early 1976.

Research programs in progress were as follows.

(1) In partnership with the Ontario Mining Association – completed development of an electronic device to locate broken wires in hoisting ropes. The Device is now ready for manufacturing.

(2) At the Haileybury School of Mines – to test safety devices on mine shaft conveyances and determine safe rates of deceleration for men.

(3) With the mining industry – assessing x-ray equipment as a means of determining the condition of hoisting ropes within steel clamps; results to date excellent.

(4) With the mining industry – on improvements to prevent runaway accidents and fires on mobile trackless equipment underground: (a) improved braking systems; (b) improved steering controls; and (c) fire suppression systems.

The Cable Testing laboratory in the Whitney Block completed 1,089 tests in 1974. By statute, all wire rope used in hoisting installations must be tested by the Ontario Government Cable Testing Laboratory before use and at intervals during service. Each cable is tested for strength of material of components including a breaking test up to 600,000 pounds in tension.

MINE RESCUE TRAINING

Seven fully equipped and staffed mine rescue stations, and 14 substations, complete with oxygen-breathing apparatus and supplies for emergency use, are operated in the province. Eleven hundred and eighty-eight mine employees and supervisors are receiving training in the use of five types of breathing apparatus and in the techniques of underground mine fire control, for one full day every two months.

It was necessary to have our 1974 Mine Rescue Handbook re-printed due to the unexpected sale of over 700 copies to other provinces.

Thirty-three mine rescue teams participated in seven district competitions, and the seven winners then competed in the provincial finals. The winners of the seven district events were Campbell Red Lake Gold Mines; Noranda Mines, Geco Division; Algoma Ore Division of Algoma Steel Corporation; Inco Creighton; Falconbridge Fecunis; Willroy-Macassa; and Noranda Mines, Langmuir Division.

The 1975 Provincial Champion was the team representing the Algoma Ore Division of Algoma Steel, captained by Keith Barlow.

MINERAL RESEARCH BRANCH

The Mineral Research Branch maintains laboratories in Toronto and Cobalt to assist in the development and utilization of mineral resources by research studies and supplying scientific and analytical information.

TORONTO LABORATORY

The Toronto laboratory supplied scientific support in the aspects of Mine Division Programs requiring elemental analysis, physical testing and mineralogical work. Our scientists are investigating geological materials taken from drill holes in the James Bay Lowlands as support for the Geological Branch program of study and exploration of that area. A co-operative project, with the Mines Engineering Branch, of monitoring quartz dust in Ontario mines and mills was undertaken. The Mineral Research Branch will set-up specialized equipment, develop methods, and provide analytical support for this project. A repository of Ontario rocks has been started in the Branch. Samples, thin sections, analytical and mineralogical data on thousands of Ontario rocks will be available for study as an aid to mineral exploration. The Branch continued to participate in Canadian and international programs of geological standards analysis.

TEMISKAMING TESTING LABORATORY

The primary functions of the laboratory are the bulk sampling of silver-cobalt ores and concentrates and the determination of silver, cobalt, nickel and copper so that the market value of mine shipments can be established. While silver ores are given priority, the mill is available for the processing of other rock, ores, and concentrates.

DIVISION OF FISH AND WILDLIFE

The Division is comprised of the Commercial Fish and Fur Branch (Resource Products Program), Fish and Wildlife Research Branch, Sport Fisheries Branch and Wildlife Branch (Outdoor Recreation Program). The objective of the Division is to manage the fish and wildlife resources of Ontario so as to provide a continuous supply of recreational and economic opportunities, and to develop public understanding of the relevant ecological principles.

COMMERCIAL FISH AND FUR BRANCH

The objective of the Branch is to manage fish, fur, wild rice and similar resources for commercial purposes.

THE FRESHWATER FISH INDUSTRY

Landings in the commercial fishery remained stable in 1974. Food-fish landings were approximately 53.2 million pounds ($9.7 million) and bait-fish, 7.5 million pounds ($2 million). The industry employed about 5,500 persons. Some of the major activities during the year were as follows.

The Freight Equalization Assistance Program continued to help fishermen in northwestern Ontario meet the high costs of transporting fish from remote areas and encouraged the harvest of under-utilized species.

Assistance was provided in developing domestic markets for smoked and filletted mullet and maria.

Pair-trawling and pair-seining were tested on Lake Nipissing and proved effective for selectively harvesting cisco in certain parts of that lake.

Bait-fish workshops were held in eastern Ontario to assist bait-fishermen in their operations. Experimentation was continued to improve bait-fish holding and harvesting techniques.

An eel-ladder was installed at the Robert H. Saunders Generating Station, and 130,000 eels were passed over the dam into Lake Ontario.

Additional areas of eastern Lake Superior were explored and found suitable for establishing a chub fishery.

Three publications were produced:

Exploratory Trawling in Lake Ontario;

The Commercial Fish Industry; Statistics on landings, 1956-1960; and

Ontario's Lake Erie Fishery: A Social and Economic Profile.

THE WILD FUR INDUSTRY

Fur marketing conditions in 1974-5 varied greatly between species. While demand for beaver, mink and marten dropped considerably, otter, fisher and fox prices held firm at relatively high levels. Lynx pelts reached the highest average value even recorded at $126.57, and muskrat pelts achieved the highest value since 1945.

Total fur harvest was reduced by poor climatic conditions, especially in the northwest. However, throughout the Province, more trappers took part in the harvest than in previous years.

Trapper workshops were redesigned and upgraded to emphasize efficiency and humane trapping techniques. Under this new program, 25 districts reported a total of 344 hours, or 62 days of workshops, to reach approximately 1,800 trappers, novice trappers, and others.

Trap development work was continued with initial tests being performed on several designs, and two designs were selected for more extensive field tests and modifications. In addition, other new designs were directed to the newly-formed Federal-Provincial Committee for Humane Trapping.

The marten and fisher study conducted in Algonquin Region produced preliminary results which were of use in recommending future seasons.

RESOURCE DEVELOPMENT (NATIVE PEOPLE)

The Federal-Provincial Resource Development program has been in effect for several years. The program was instituted to assist native people in various fields relating to renewable natural resources, thus providing improved opportunities for employment in the areas in which they are resident in activities such as lumbering, hunting and fishing.

The following projects were carried out during the fiscal year under the Federal-Provincial Resource Development Agreement.

Fur. Trappers and their families from the James Bay area were assisted in establishing themselves on vacant trapline areas in Northern and North Central Regions to harvest fur in areas not being utilized. Some trappers participated in the trapper education program which promoted the care and handling of pelts, as well as aspects of humane trapping techniques and sound management practices.

Commercial Fish. Lake surveys were conducted to determine the availability of desired fish species which would support a commercial fishery. Also, studies and experiments on netting operations and on handling, packing, and storage of fish were carried out.

Tourism. Indian bands were assisted in the operation of six goose hunting camps located along the coasts of Hudson and James Bays. The aim of this program is to assist native people to become proficient in the field of operation. It is expected that eventually these camps will be taken over completely by the bands.

Hide Collection. Moose and deer hides were collected throughout the province and distributed at tanning costs to Indian bands. The hides are then made up into various forms of Indian craft such as jackets, mukluks, slippers and gloves. These articles are then made available for sale, thus adding to the income of the bands benefitting from the hide collection program. Through proposed advertising, it is expected a remarkable increase will be realized in the future. During the past year, a ticket draw was instituted for various articles of Indian-made apparel to encourage the donation of animal hides. This draw was held at the Ontario Federation of Anglers and Hunters' convention in Ottawa and proved to be most successful.

Timber. Technical advice was provided on logging, lumbering and reforestation projects. Assistance was given to Indian bands in the management of reserve forests and plantation improvements.

Planning. Indians attended meetings and took an active part in planning projects such as lake surveys, park establishments, recreational opportunities, development of sport fisheries in specific areas, and plantation and reforestation programs.

FISH & WILDLIFE RESEARCH BRANCH

The objective of the Branch is to provide the understanding of basic principles related to fish and wildlife resources for their optimum management by undertaking or arranging investigative research.

In pursuit of this objective, the Branch not only carries out relevant, high-quality research and publishes its results in the open scientific literature, but makes its specialized expertise available to all levels of the Ministry to assist policy formulation, program design and the analysis and evaluation of results.

Much of our fisheries research is aimed at improved prediction of the impact of man's growing and varied use of our waters and their fish communities. Insight into the direct and indirect effects of fishing, pollution, the introduction of alien fish, shoreline development, water level changes and other perturbation is sought by comparison studies of the lightly stressed fish stocks of selected northern lakes with those in more heavily stressed southern waters, especially Lakes Ontario, Erie and St. Clair. During the past year the studies of unstressed situations were extended to include a set of small lakes typical of those in the boreal forests north of Lake Superior. This will supplement the valuable and long continued studies on Algonquin Park lakes, as well as Lakes Superior and Huron.

The genetic research and the selective breeding program, intended to produce fish possessing qualities recommending them for stocking in our natural waters, continued to concentrate on the lake trout-brook trout hybrid, the splake. Samples of the survivors of the highly selected, fifth-generation splake stocked into Lake Huron showed this fish, which amounts to an early maturing lake trout, to be growing well and showing reasonably good survival. Field tests of several genetic strains of splake in smaller inland lakes in Northeastern Region showed them to offer some advantages by way of rapid growth when compared to either parent species, and to have enjoyed good survival. Hence, a hybrid strain may provide a useful alternative in stocking depleted inland waters on a quasi put-and-take basis.

In collecting the necessary data to pursue these various studies, our fisheries scientists obtain much information of immediate use to management staff in areas where they work, and have increasingly served as resource persons on local management committees, during the past year. In a similar way, they have become increasingly involved as technical representatives of the Ministry on inter-ministerial and federal-provincial committees as well as those of the International Joint Commission for Boundary Waters and the Great Lakes Fishery Commission.

Wildlife research in Ontario seeks to fill our knowledge gaps by investigation of behaviour, physiology, reproduction, pathology, population dynamics and interactions between wildlife and habitat of selected species.

Progress continued toward optimization of a baiting strategy capable of delivering an oral rabies vaccine to the major wild carnivore vectors of the disease. This program is far in advance of comparable efforts around the world. Black bear studies continued to provide important insight into fluctuation in human: bear problems. A new project has already provided much information on a bear parasite which has caused concern among hunters.

Pathological research also included the analysis of material collected by Dr. Audrey Fyvie before her death, while laying groundwork for experimental studies of the influence of diseases on population dynamics. Continued development of a radio-tracking system bore valuable fruit, but full utilization of this tool is hampered by lack of the automated receiving equipment available through modern technology.

SPORT FISHERIES BRANCH

The objective of the Branch is to maintain and enhance the fish populations of Ontario as a stable base upon which to provide continuing recreational and economic benefits to the people of Ontario.

During recent decades, some of our waters have lost production potential, and some fish populations have lost stability. The general stresses which act on fish populations include excessive exploitation, excessive degradation of water quality by nutrients and/or contaminants, and the side effects of newly introduced or invading species such as smelt or sea lampreys.

Recovery of the former fish production potential of Ontario waters requires a more intensive degree of fisheries management effort throughout the province. This includes continuing international participation in the program of the Great Lakes Fishery Commission, and an increased fisheries role in water-quality management programs co-ordinated by the International Joint Commission.

To promote the optimum management of Ontario's fisheries resources, a joint federal-provincial planning exercise is being conducted to identify the problems facing the fisheries, and possible strategies are being developed to alleviate these problems.

FISH CULTURE

About 250,000 pounds, or 7.1 million fish, and 12 million eggs were stocked in public waters of Ontario during 1974. The Great Lakes rehabilitation program required 22 per cent of the total number, and the balance were released in numerous inland waters. Brook trout and lake trout, and the selected hybrid, splake, accounted for 57 per cent of the total fish stocked.

Planning continued for the proposed Lennox Fish Culture Station in southeastern Ontario, and for the reconstruction of Dorion Fish Culture Station in northwestern Ontario.

Information generated from existing and developing data systems will provide a necessary base for the considerably expanded fish culture program required to meet a growing public demand, and to meet the needs for rehabilitation of depleted stocks of fish in the Great Lakes.

A Ministry agreement with the University of Guelph permitted the continuation of disease diagnostic services and fish nutrition studies. Improved diet formulations were developed and tested with favourable results.

FISHERIES SERVICES

A significant decrease in the sale of three-day, non-resident angling licences was anticipated as, for the first time, the fee was raised to $5.00 to be more than half the price of a seasonal licence at $8.50. The actual decrease amounted to 23.8 per cent. At the same time, sales of seasonal licences increased by 3.8 per cent, and Canadian resident licences increased from 19,108 to 21,807.

This year saw the initial design and development of the Ontario Fisheries Information System. A new data base was initiated for hatchery production and costing data, and development of the creel survey analysis system continued.

POPULATION DYNAMICS

During its first full year of operation, considerable travel and attendance at meetings occurred as the Section provided consulting services to field staff. The Section was involved in the Salmonid Communities in Olizotrophic Lakes training session in northern Ontario and participated in the development of the Ontario Fisheries Information System. A co-ordinating role was provided for Ontario contributors to an International Percid Symposium (PERCIS) to be held in Ontario in the fall of 1976.

Major emphasis continued to be placed on lake trout. A geographical atlas, listing the origin and location of the 2,000 lake trout lakes in Ontario, was completed. Work was continued on a classification system for lake trout lakes. A co-operative project with Fish and Wildlife Research Branch, to compare the common physical and chemical properties of Ontario's lake-trout lakes and non-lake-trout lakes, was initiated.

FISH HABITAT (ENVIRONMENTAL) DYNAMICS

Our waters, or fish habitats, go through seasonal changes which are normal for them and for the fish and other life in them; they are said to be dynamic as opposed to static. Modern man's activities, such as hydro development, road building, agriculture, pulp manufacturing, mining and cottage development add other kinds of changes to fish habitats. The changes imposed are seldom obvious to man in the short term, but it has become clear that fish populations must and do respond to these changes even in the short term.

Considerable loss of fish production potential is attributable to changes in water quality imposed by man's developmental activities.

In the belief, that similar loss can be avoided or minimized in the future by careful planning and engineering, considerable effort is being expended in providing advice and forecasts of potential impact on fish habitats. Studies have been conducted with Ministry of Transportation and Communications on the impact of the Hanlon Expressway on a brook trout stream, and with Ontario Hydro, Stelco, Texaco and Ministry of the Environment on the impact of the Nanticoke development on the adjacent part of Lake Erie, among others. To ensure adequate monitoring of impact, both the Hanlon Expressway and Nanticoke studies have been extended for another one and one-half and three years, respectively.

A pilot study on reclaiming lost fish habitat was conducted on Wilmot Creek. Work included planting streamside vegetation, erecting fences, stabilizing stream banks with gabions and riprap, and forming pools, and undercut banks. Water quality changes and fish populations were monitored. A booklet entitled "Better Streams for More Trout" is in press for public use.

In-stream dams on rivers are still one of the most serious threats to maintaining natural salmonid populations. As part of our program of making streams more accessible to salmonids, a new type of fishway has been further tested in conjunction with Engineering Services Branch. The tests were successful, and this fishway has been accepted as another tool to pass fish over barrier dams.

Monitoring of adult salmonid populations at the fishways on the Saugeen and Ganaraska Rivers continued. Over 2,500 rainbow trout and some brown trout were measured, examined, tagged at these fishways, and given access to their spawning beds upstream. Operation of fishways on the McIntyre, Sydenham and Nottawasaga Rivers also provided access for salmonids to several hundred miles of upstream habitat. A new study of monitoring downstream migrant smolts began this spring at the Ganaraska fishway.

In our continuing, detailed inventory program, some 560 lakes and 58 streams were examined in 1974. Four hundred and eighty-four fishing maps have been prepared for public use.

PLANNING

Planning Section provides fisheries input to Ministry strategic land use plans, municipal plans, and various other types of planning documents prepared within and outside the Ministry of Natural Resources. Participation in the plan review process ensures that fisheries concerns receive adequate consideration.

Work has continued on the calculation of potential fish yields based on watershed units. Data on lake areas and fish productivity of southern Ontario lakes will be available shortly.

The "Trout and Salmon Migratory Routes Map" for northern Ontario has been prepared and is currently at the cartographic stage.

Preparations have begun for a province-wide survey of resident and non-resident anglers. The survey will collect information regarding the amount and location of sport fishing in Ontario, user characteristics, angler preferences, expenditures and limited harvest information. A pilot survey will be conducted in late 1975, and the final comprehensive survey will occur in 1976 to coincide with the national census.

Sport Fisheries Branch serves as the liaison agency within the provincial government in dealings concerning the federal Small Craft Harbours Program.

WILDLIFE BRANCH

The Branch objective is to manage, enhance and interpret wildlife populations and habitats to provide optimum wildlife-based recreation opportunities for the residents of Ontario, and a continuous contribution to tourism and its related industries. Much effort is directed to the maintenance and improvement of wildlife habitat as it is habitat which determines the potential in wildlife numbers.

BIG GAME MANAGEMENT

The 1974 deer hunt was similar to, or better than, 1973 in the Fort Frances, Kenora, Manitoulin Island, North Bay, Bancroft and Pembroke areas, and most of south-eastern and southern Ontario. Less success in hunting was evident in the Dryden, Blind River, Parry Sound, Bracebridge, Minden and Tweed Districts. Very little deer mortality was noted in the winter of 1974-5 although it is not yet known whether productivity was affected. There was considerable snowfall in many areas of the Province's deer range, but fortunately conditions were not severe until mid-winter. Forest cutting practices in most areas of Ontario from Sault Ste. Marie, south to Parry Sound, Tweed and Pembroke, continue to be unfavourable to deer. Deer habitat management is concentrated on increasing the winter food supply by cutting hardwoods in and around winter shelter.

The moose population remains relatively stable. The size of the herd declined in areas which are easily accessible to hunters, but increased in localities away from roads and lakes. Working with local populations of animals is important to implement a sound provincial moose management program. The initial phase of the new program, the establishment of 42 Wildlife Management Units in northern Ontario, is nearly completed.

Black bear numbers, though difficult to assess, are believed to be holding constant. Nuisance bear are trapped and released elsewhere whenever possible, or destroyed if necessary. Hunters take averages between 6,000 to 9,000 bears per year, and the number of bear hunters is increasing.

Timber wolf and coyote populations remained relatively stable during the past year. Occurrences of predation on domestic stock, by coyotes primarily, were comparable to those of 1973. Losses attributed to these species, and for which producers received compensation under the Wolf Damage to Livestock Compensation Act, were in the amount of $71,700.00 for 1,070 sheep, 124 cattle, two horses, six goats, one swine and 74 fowls and other poultry.

The Act was revoked in December, 1974, and its provisions were incorporated into The Dog Licencing and Livestock and Poultry Protection Act under the administration of the Ministry of Agriculture and Food.

During 1974, the predator control program resulted in the removal of 100 wolves and coyotes and 40 black bears from areas in which producers were experiencing livestock losses to these predators.

UPLAND GAME MANAGEMENT

Ruffed grouse reached a low last year and are now recovering. There is a prediction of increased numbers of Hungarian partridge for eastern Ontario. Sharp-tailed grouse populations are also recovering. Numbers of European hare, varying hare, and cottontail rabbits have been more or less stable.

Due to the loss of habitat, wild-bred ring-necked pheasant numbers are declining. Released birds supplement the wild stock on Wildlife Management Areas and in regulated rural municipalities.

Squirrels are generally plentiful, and raccoons are increasing in numbers in most of the Province. Fox populations fluctuate with outbreaks of rabies.

The 1975 woodcock survey count was comparable to last year's count although lower numbers were recorded in certain districts.

WATERFOWL MANAGEMENT

A program to establish a wild-breeding population of the giant Canada goose has been underway since 1968, and wild birds may be seen in many places. Snow geese in the far north reproduced well in 1974, resulting in large numbers in Ontario. The 1975 nesting season was average. The fall populations of ducks of various species were similar to those in earlier years.

WILDLIFE EXTENSION AND PROVINCIAL WILDLIFE AREAS

Thirty-eight areas are located throughout southern Ontario to provide wildlife-based recreation on private and public land. Habitat is managed to produce wildlife for viewing, hunting and maintenance of wildlife populations. Interpretive displays and trails are provided in many of the areas.

FIELD SERVICES

Conservation Officers of this Ministry are responsible for the enforcement of laws and regulations pertaining to fish and wildlife. The laws include The Game and Fish Act, The Endangered Species Act, The Fisheries Act, and The Migratory Birds Convention Act. Convictions for violations recorded in 1974 totalled 5,649, an increase of approximately 25 per cent over 1973.

PLANNING

Many kinds of plans, including recreational, forestry, mining, housing, and municipal development plans, have been reviewed to ensure that wildlife interests are an integral part of planning considerations. Environmental impact assessments from many sectors are increasing in number and have been carefully scrutinized with regard to wildlife interests.

New wildlife management units have been developed for the north, and the boundaries of the zones for the 1975 hunting season are based on these new units.

WILDLIFE SURVEYS AND RECORDS

This office, formerly called the Central Licence Bureau, files hunting and non-resident angling licences. Statistics on participation in hunting, including participation rates, hunter success and harvest, and socio-economic characteristics of participants, are obtained through mailed questionnaires. The information so collected supplements data obtained in the field and forms the basis for wildlife management and recreation planning.

DIVISION OF PARKS

PARK MANAGEMENT BRANCH

The number of campers using Ontario Provincial Parks increased in 1974 to 1,615,677 while the total of visitors declined slightly to 11,031,651, an eight per cent reduction from the 12,136,909 visitors in 1973.

In southern Ontario, many families had to be turned away on busy weekends despite the addition of new campsites to the system. July/August percentage occupancy increased to 62 for the 20,036 campsites available, up from 58 per cent the year before.

Two new parks were opened:

Petroglyphs, a 2,878-acre day-use historical park situated 30 miles northeast of Peterborough, preserving significant Indian rock carvings; and

Halfway Lake, a 3,240-acre recreational park with 118 campsites situated 50 miles north of Sudbury on Highway 144.

The total number of parks increased from 115 to 117. In addition, many existing provincial park facilities were upgraded with improvements to water, sewage and electrical systems.

VISITOR SERVICES – INTERPRETIVE PROGRAM

During the year, more than 900,000 park visitors attended exhibits, conducted trips, self guiding trails, lectures, and organized group recreation activities to learn more about Ontario and its parks, environment, resource management and history.

A waterfowl viewing weekend was held at Long Point Provincial Park in co-operation with naturalist organizations, and over 10,000 visitors attended.

The number of parks offering interpretation programs continued to expand, and several new audio-visual programs were produced.

A detailed study of the interests and desires of campers in Provincial Parks was completed. Over 1,200 personal interviews with campers were conducted in six parks. The results of this study will assist in the formulation of policies and direction for the Visitor Services and Interpretive Program.

WINTER PARKS

During the winter of 1974-5 four parks were operated on a winter basis: Arrowhead, near Huntsville; Sibbald Point, on Lake Simcoe; Pinery, on Lake Huron; and Rondeau, on Lake Erie. Winter facilities include snow-plowed roads and campsites, heated washrooms with hot water, central drinking water, fuelwood supply, garbage disposal, and electrical outlets. Regular fees were charged.

Ski-tows were operated at Pinery and Remi Lake Provincial Parks. Many other parks were used for activities such as snowshoeing, cross-country skiing and tobogganing.

SNOWMOBILE TRAILS

Snowmobiling was permitted in Provincial Parks on approximately 200 miles of marked trails and 700 miles of park roads during the past winter. Over 600 miles of cross-country snowmobile trails were operated on public lands in Parry Sound, Huronia, Lindsay, Tweed and Ottawa Districts.

In addition, a special one-season snowmobile trail maintenance program, funded to $1,000,000, was instituted to assist snowmobile clubs, municipalities and conservation authorities to improve the grooming of over 7,000 miles of trails across the Province. In addition to increased trail grooming equipment and assistance from the Ministry's 49 District Offices, for the first time direct financial aid (in the form of grants) was made available to 132 eligible clubs and agencies.

ACCESS POINTS

During the year, close to 1,000 access points with parking areas and boat launch ramps were maintained to provide boaters with access to lakes and rivers.

CANOE ROUTES

In 1974, more than 100,000 persons entered Algonquin and Quetico Provincial Parks for interior canoe camping.

A booklet, Northern Ontario Canoe Routes, was issued to summarize 125 routes representing 11,000 miles of canoeing waterways.

A program to document canoe waterways in southern Ontario was continued in 1974.

CAMP ALGONQUIN

A special camp for disadvantaged boys and girls aged 12 to 16 years was established at Algonquin Provincial Park in July, 1974. Operating for four two-week periods in July and August, the camp accommodated 175 children. Facilities were installed by the Ministry of Natural Resources and the program was operated by the Camping Division of the Metro-Toronto Y.M.C.A.

ROWDYISM IN PROVINCIAL PARKS

Rowdyism within Provincial Park campgrounds continued to be a problem in the 1974 season despite the hiring of additional security staff and conservation officers, increased staff training in law enforcement techniques, and extra assistance from the Ontario Provincial Police.

The number of persons evicted increased from 4,282 to 5,542 and the number of persons charged under the Provincial Parks Act and other statutes rose from 967 to 1,824. The value of visitor property stolen increased from $22,538 to $50,602 and damage to parks property from $15,400 to 22,008.

To control the problem during 1974, law enforcement training was intensified and new regulations were introduced.

PARK PLANNING BRANCH

RECREATIONAL LAND ACQUISITIONS

Work continued on the evaluation of future parkland with emphasis on increased recreational facilities for southern Ontario residents. During the year, 11,620 acres were acquired for parks purposes.

As part of the implementation of the Niagara Escarpment Report, 8,434 acres were purchased, making a total of 40,442 acres acquired to date. An additional 80 acres of land were purchased at Wasaga Beach.

PARK ADVISORY COMMITTEES

In May, 1974, an Advisory Committee was appointed to study Rondeau Provincial Park.

Policy recommendations by the Shorthills Provincial Park Advisory Committee were accepted in the main by the Minister in August, 1974.

PROVINCIAL PARKS COUNCIL

The Ontario Provincial Parks Council, under the chairmanship of Dr. George Priddle, University of Waterloo, was appointed in October, 1974. Comprising 19 members representing a wide array of recreational backgrounds, the Council's mandate includes monitoring the implementation of the Algonquin Park Master Plan and advising the Minister with respect to the planning, management and development of the Provincial Parks system in relation to changing public needs.

MASTER PLANNING

The Provincial Park Master Planning program continued to expand this year with the completion and publication of Master Plans for Algonquin Park, Mono Cliffs, Ouimet Canyon, Wasaga Beach and Duclos Point.

Work continued on finalizing plans for Frontenac, Petroglyphs, MacGregor Point, Quetico, Polar Bear, Short Hills, Boyne Valley, Sibley, Methodist Point, Bon Echo, Silent Lake, and 25 other park projects.

Public discussions were held on these plans to permit active public involvement in the planning of future policies and developments.

Pistol Lake. A consultant was engaged to prepare a draft Master Plan for a new Provincial Park situated about 36 miles north of Kenora on the west shores of Pistol and Sand Lakes. Alternative development strategies for the 4,000-acre park reserve will be presented for public discussion.

NEW PROJECTS

North Shore Lake Superior Recreation Study. Initiated in 1974, this planning study on the potential of the north shore of Lake Superior for water-oriented recreational activities was released in February, 1975, for public discussion.

PARK CLASSIFICATION

Work was initiated on revisions to the park classification system in use since 1967. The proposed revisions introduce certain new class designations and will provide more detailed policies for the planning, development and management of existing and future provincial parks.

PARK USER SURVEY

A park user survey program was commenced during the 1974 season to survey users of provincial parks on a regular basis. The purpose of the program is to provide information vital to the planning and management of the parks. Designated parks will be surveyed on a cyclical basis, once in five years, each year of the cycle involving a different group of parks.

TOURISM BENEFITS STUDY

A study was undertaken to examine and further clarify one of the Division's objectives – provision of a continuous contribution to the economy of Ontario from tourism and its related industries. Under the study, this objective was further defined, methods for assessing economic impact of parks were reviewed, and a proposed procedure for evaluating economic impact of Ontario Provincial Parks was developed. Results of the study have been documented in a report.

WILDERNESS AREAS

Investigations were undertaken to define the elements of a system of wilderness areas for the Province and to identify and delineate candidate areas.

TRAILS INVENTORY

In conjunction with the Winter Trails Maintenance program initiated this year, an inventory of existing trails was undertaken to provide information for trails planning purposes.

NATURE RESERVES

A new planning/measurement system for nature reserves is under development to facilitate the identification of potential nature reserves and the evaluation of existing reserves.

HISTORICAL SITES BRANCH

SYSTEMS PLANNING

The Topical Organization of Ontario History, the Research Report Format, and the Historical Resources Evaluation Scheme, planning tools developed over the past two years, were extensively used in the past year's research program. The *Topical Organization of Ontario History* was published and distributed to Ministry of Natural Resources regional offices and across Canada.

INVENTORY

The Branch's historical resource inventory continued to expand and was effectively used as the Branch provided resource information and planning advice to other ministries for more than 15 projects, these projects included highway and hydro corridors, new towns, and land-use planning and lakeshore development exercises.

RESEARCH AND PLANNING

The program of research and planning continued in parks, park reserves, public land areas and areas critical to recreation planning. During the year, 14 surveys, inventories, or other studies were continued and 30 new projects were initiated. The total of 44 projects was comprised of 29 archaeology, 12 history, and three architectural history studies.

RESEARCH PUBLICATIONS

The Research Report series was continued with the publication of *North Pickering Archaeology* (number 4), *Annual Review: Research* 1973-74 (number 5), and *Canadian Archaeological Association, Collected Papers – March, 1975* (number 6).

HISTORICAL PARKS

Fort William Historical Park, Thunder Bay, opened 13 of the projected 48 structures to the public. Visits increased by more than 60 per cent from 1973 to total 71,398.

Sainte-Marie among the Hurons, Midland, had 143,224 visitors, an increase of more than 1,000 over the 1973-4 season. The millionth visitor, Mr. John Gagnon, and his family were welcomed to the site in the summer of 1974. The 1972 Sainte-Marie Prize in History was presented to Professor Francois Gagnon of the University of Montreal for his work "La Conversion par L'Image". The presentation was made at Sainte-Marie by Lorne Maeck, parliamentary assistant to the Minister. Also, the 1973 Prize was presented by Dr. J. K. Reynolds, Deputy Minister of Natural Resources, to Professor Cornelius Jaenen of the University of Ottawa for his manuscript "Friend and Foe: Aspects of French-Amerindian Contact in the 16th and 17th Centuries".

The Historic Naval and Military Establishments, Penetanguishene, saw continued research and program planning in 1974. During the year 11,112 persons visited the site.

The Museum of the Upper Lakes, Wasaga Beach, had 12,645 visitors in the 1974-5 season.

DIVISION OF LANDS

LANDS ADMINISTRATION BRANCH

The Branch is responsible for formulating objectives with respect to the administration of Crown lands (both public and mining lands) in Ontario, and for acquiring private lands necessary for Ministry programs.

LAND ACQUISITION SECTION

The Section purchases all private properties required for programs of the Ministry such as public recreation and timber management. It assists in setting acquisition priorities, oversees and approves each purchase and maintains a computerized inventory of all property acquired. Newly acquired properties are managed by the Section to provide optimum benefits until they are incorporated into Ministry programs. More than 600,000 acres have been purchased since the Section's formation in 1962 – 5,200 acres in the past year. This year particular emphasis was placed on consolidating holdings to allow development of the properties to begin.

TITLES SECTION

This Section prepares the title documents required to dispose of Crown lands under The Public Lands Act and The Mining Act and maintains a written registry of Crown lands. In addition, it levies mining acreage tax and carries out procedures necessary to effect forfeiture to the Crown of alienated mining lands when the owners default. In 1974-5 there was an increase of approximately 36 per cent over the previous year's total in the number of title documents prepared. The number of patents and leases prepared for summer resort lands increased by almost 15 per cent.

MINING LANDS SECTION

Under The Mining Act, this Section is authorized to manage Crown mining lands as follows:

(i) ruling on leases and exploratory licences of occupation (used often in oil exploration);
(ii) issuing permits for sand and gravel removal;
(iii) collecting royalties;
(iv) auditing all mining claims recorded in regional offices; and
(v) freezing land from dispostion for mining where necessary.

Protection and rehabilitation of land figure prominently in the work of this Section. It licenses the commercial removal of sand and/or gravel from all beaches, banks or waters of lakes and streams and regularly monitors such operations. This surveillance, and consultation with Fish and Wildlife field office staff and with the federal Ministry of Transport, ensure that erosion or significant damage to the local ecology is prevented. Only municipalities removing sand and/or gravel for their own use are exempt from Ministry licensing and supervision. The program of rehabilitating depleted pits and quarries continued with approximately 51 being restored from a budget of $100,000 in 1974-5.

PUBLIC LANDS SECTION

In the administration of public lands other than mining lands, the emphasis has changed from strictly land disposition to management. Management focuses on developing a balance between preserving unique or traditional land attractions, maintaining an allowance for future flexibility, and meeting public needs for lands and waters.

Public land is disposed of by sale, lease, easement, licence of occupation, land use permit, or by vesting order when transferred to another agency of government. This Section prescribes conditions for disposition of public land in accordance with land-use plans for the area concerned.

Privately owned land is managed only in territory that is not municipally organized, through the designation of Restricted Areas under Section 17 of The Public Lands Act. Only one area was given restricted status during 1974-5. The Ministry is presently reviewing its position on restricted areas with the aim of improving its service to the public.

Crown Cottage Lots: Proposals for Change. In the case of cottage lots for private use, regulations were altered in 1971 to allow tenure by lease only. This past year two additional regulation changes were proposed. The first affects eligibility for cottage lots, and the second introduces a new type and location of lot. At present, during the first year on the market, cottage lots may be leased only to Canadians and landed immigrants. However, under the proposed regulation only Canadian citizens and landed immigrants who are Ontario residents may acquire leases in the first year of registration; other Canadian citizens and landed immigrants will be eligible during the second year; and non-Canadians thereafter.

The second regulation change under study will allow the introduction of a remote cottage site program as an alternative to cottage lots in subdivisions. Isolated sites suitable for cottages, with 'backhouse and waterpail' facilities only, will be located north of the French and Mattawa Rivers in northern Ontario. Both shoreline and inland sites will be widely spaced; the inland sites, more than one-quarter mile from waterways, will be restricted to one in each nine square miles. Lease conditions will apply as with subdivision cottage sites but tenure arrangements will be of shorter duration.

Crown Land Camping. An innovative program of Crown land camping was initiated this year on a trial basis. Prepared campsites, supervised by Ministry staff, but without water or electricity, were provided within one-quarter mile of roads near Kenora. A nominal fee only was charged for this 'near-wilderness' camping. Although final results of the experiment are not yet available, all early indications point to its success.

LAND USE CO-ORDINATION BRANCH

During 1974 the Branch, comprising the *Land Use Planning, Land Use Liaison* and *Municipal Plan Review* Sections, continued to co-ordinate Ministry planning, assist other ministries and municipalities with land-use plans, and review development proposals that came from individuals and outside agencies.

STRATEGIC LAND USE PLAN

Since its inception in 1972 the Branch has placed a major concentration of effort on the preparation of the Strategic Land Use Plan. When completed and approved, this will serve as the official co-ordinating guide for all programs of the Ministry that require land. Aiming at the same goal of a comprehensive, co-ordinated policy, the Land Use Liaison Section held a series of meetings with other branches of Natural Resources and with other ministries to discuss a variety of land use policies. Both main office and field staff participated in collecting and analysing data necessary to the formulation of policy.

The outcome of this activity was the creation of policy statements for the Northwestern, Northeastern and Southern Planning Areas. Information packages describing these policies and inviting public reaction were produced, though only the Northwestern planning package was released to the public before year's end. Some comment has already been received and considerably more is expected. All comment will be taken into account in the finalization of the policy, scheduled for next year. Another in-house product was a first draft of the General Land Use Plan for Lake of the Woods.

ASSISTANCE TO OTHER JURISDICTIONS

The Branch worked closely with the Ministry of Transportation and Communications on regional network plans; with Treasury, Economics and Inter-governmental Affairs on its parkway belt and regional development projects; and with Ontario Hydro. It also maintained close co-operation both with Environment, Industry and Tourism, and Agriculture and Food.

On other governmental levels, planning assistance was given to such projects as the Central Waterfront Plan under the auspices of Metropolitan Toronto and to several municipalities preparing official plans, among them the Regional Municipalities of Waterloo and Haldimand-Norfolk, the District Municipality of Muskoka, and the City of Timmins.

LAKE PLANNING

One highlight of the year's activities came into being when the Land Use Planning Section became involved with lake planning (a function assumed from the Lands Administration Branch) and developed a methodology tested in the field during the summer. The resultant guide was a forerunner of the Lake Planning Manual now in draft form. The manual is considered unique in its field because it provides a multidisciplined look at a lake and its surroundings as a single ecological entity rather than the usual microscopic view of one segment such as cottaging or fish production. The manual will be available as a guide to cottage associations and as a training handbook for field workers on how to evaluate a lake and produce development for the lake which has an environmental conscience. Already the draft has been sent, on request, to various municipal and provincial governments, federal authorities, other Ontario ministries and planning commissions and consultants in both Canada and the United States.

PLAN REVIEW ACTIVITY

A great many development proposals that came from individuals, private concerns, other government agencies and municipalities can have a significant effect on the objectives and programs of this Ministry. It is important to ensure that these proposals are compatible with accepted land use planning principles and that they create no serious adverse impact on objectives or programs of this Ministry. While the review of these proposals is common throughout Ontario, development pressures are most vigourous in the southern regions. In reviewing and commenting on these development proposals, the Ministry makes a valuable contribution to maintaining a good quality environment as well as trying to ensure that provincial resources remain productive.

The number of subdivision, severance, other specific development and official plan proposals reviewed in the 1974-5 fiscal year has approximately doubled the number reviewed the previous year.

SURVEYS AND MAPPING BRANCH

The Branch is a service agency whose name accurately describes its duties. It carries out ground and aerial surveys of various types and makes a wide variety of maps for the Ministry, the Government and the public at large. Its director is the Surveyor General of Ontario.

The surveys conducted are of two types: those needed locate land boundaries or to define ground position for official purposes, and those needed to record the nature of land and assess its future potential.

The Cadastral Surveys Section is responsible for all surveys or re-surveys of township boundaries throughout the Province and all surveys of Crown land prior to its disposition. Much of this work is performed under the direction of the Surveyor General by land surveyors in private practice.

The Control Surveys Section handles the precise fixing of selected ground points needed for mapping control and to support co-ordinate systems associated with surveying, engineering and geographical referencing. The Section let a contract during the year for a computer program that will be used in adjusting large networks of survey control. It will generally be available for use outside the Section. A data bank for the management of control survey information was also put under development in 1974-5.

The Inventory Section uses photo interpretation techniques to furnish data on forest stands throughout Ontario. It sends out field parties to investigate soils and terrain and to evaluate the potential use of land and water for recreation, timber production, wildlife habitat and any hazards to human occupation. The Section anticipating demands for rapid increases in pulp and paper production, began to accelerate its forest inventory program whose completion target is now two years ahead of the original schedule. It also installed and began to evaluate new water inventory equipment, in co-operation with Sport Fisheries Branch, with the aim of improving fish productivity within the Province.

The Cartographic Section produces the Province's topographic, territorial and geological maps, as well as other thematic maps and associated booklets and brochures. Associated with the Branch's major functions are such supporting activities as the supply and interpretation of satellite imagery and drafting services, the monitoring of geographical names, and the organization of systems for referencing government records by position.

The Drafting Services Section provides general drafting and graphics support to this and other ministries lacking their own drafting staffs. In particular, it maintains plans recording in visual form the status of all mining and other public lands.

The Ontario Centre for Remote Sensing provides a Provincial centre of co-ordination, expertise and research in its field which is largely associated with the interpretation of satellite imagery. The Centre, which became operational only this year, announced the development of a unique capability in aerial photography using miniature cameras which delivers benefits in both flexibility and economy.

The Ontario Geographic Names Board is furnished with its Secretariat and support staff by Surveys and Mapping Branch. This agency provides and maintains accurate, official names for geographical features and unincorporated places for use on Federal and Provincial maps of Ontario and in related documents. As a major field study this year, the Board sent two Cree linguists into the field to collect and verify geographical feature names for use on 30 government-produced topographic maps in the James Bay area. More than 500 names, the majority in Cree, and considerable origin data were collected. This was a significant step towards the better utilization of local Indian nomenclature on maps.

The Task Force on Geographical Referencing, set up by the Branch, published two reports recommending major mapping initiatives for the Province. The reports contain the first comprehensive inventory and appraisal of the Ministry's mapping activity ever undertaken, as well as a review of mapping in other ministries and municipalities throughout Ontario. The Task Force recommended:

(i) a single projection and grid system for the Province;
(ii) standardized mapping scales and formats; and
(iii) a proper evaluation of automated mapping systems.

The Cartographic Section and the Geographical Referencing Section, in cooperation with the Federal Energy, Mines and Resources Department and the Waterloo Research Institute, have now begun this evaluation.

FIELD SERVICES DIVISION

FOREST FIRE CONTROL BRANCH

The 1974 fire season in Ontario was the worst since 1961. A total of 1,625 forest fires burned 1,294,800 acres, the highest acreage since 1923. Of these fires, two occurred at times other than during the fire season, and 71 occurred in areas not under intensive protection; these fires accounted for 1,013,440.4 acres or 79 per cent of the total acreage.

Fire occurrences throughout the beginning of the 1974 season, through to the fourth week in June, compared favourably with the ten-year average. During that time, a total of 533 fires had burned 4,000 acres. On June 26, after three weeks of abnormally dry weather, multiple fire starts were experienced. During the next week, 196 new fires were reported, 47 of which were reported on one day, June 30.

With the weather offering little or no assistance, the peak occurred on July 28 with a total of 115 forest fires burning in the Province, of which only 56 were classed as under control. The largest fire was Red lake No. 78 which grew to 302,848 acres and at one point threatened to completely destroy the community of Poplar Hills. Residents were asked to evacuate the village temporarily.

For the same period in 1973, a total of 961 fires consumed 8,500 acres.

Lightning accounted for 34 per cent of 1974 fires and 98 per cent of the area burned.

During the 1974 fire season, due to the seriousness of the fire situation, a large number of support aircraft were leased from outside agencies. This was the first time that many of these aircraft had made an appearance in Ontario other than for demonstration purposes. Their use, especially the large retardant bombers such as the A-26 and DC-6B, and the retardant/water bombing capabilities of the Canso and CL-215, proved effective in bringing fires under control. Water bombing with helicopters was given its first extensive trial in Ontario, and the results were encouraging.

FIRE PREVENTION

During 1974, a major accomplishment in the area of fire prevention was the production of a Fire Prevention Manual. This publication is a catalogue of all prevention material from slide tapes to road signs to posters that are available for use in Ontario. Also included is a list of the various media available, and instructions on format and procedure for plugging messages into the system.

Ten 30-second television shorts, produced in 1973 through Information Branch, were released and, from all indications, well received. Current developments included a re-styling of Ontario's prevention posters to conform with the international system and the production of a slide tape program styled after "Only You" which was produced in the United States.

TRAINING

Due to the manpower commitments and other problems created in 1974 by the heavy fire load, basic courses in fire suppression were not conducted. The fifth annual, advanced fire management course (Fire Suppression II) was presented to 23 candidates in February, 1974.

A one-week course in basic fire weather was held with the co-operation of the Atmospheric Environment Service. A total of 28 people completed the course this year.

The air attack training course, originally developed for pilots only, was expanded this year to include other fire control personnel. Training included airtanker loading systems and birddogging techniques, as well as emphasizing the importance of air traffic control over fires.

Future training developments include the purchase of Fire Games for each of the fire regions, and a slide tape program covering retardant aircraft loading.

DEVELOPMENT WORK

Field evaluations of various items of forest fire control equipment were made during the 1974 fire season. Recommendations were made upon completion of tests done during 1973. These included: field test of synthetic fire hose, operational evaluation of the Gorman-Rupp pump, modification of fire hose packaging methods, evaluation of a lightning storm tracking system, and evaluation of computer-assisted data collection techniques.

AIR SERVICE BRANCH

The year 1974 was the 50th anniversary of the Ontario Provincial Air Service. The OPAS was formed in 1924 with the appointment of W. Roy Maxwell as director and the purchase of 13 HS2L flying boats. In that first year, 2,597 hours were flown.

The major changes to the fleet were the addition of 16 DeHavilland Moth seaplanes beginning in 1927; Vickers Vedette amphibians, 1929; four Hamilton seaplanes, 1930; four Fairchild seaplanes, 1930; four Buhls, 1935; nine Stinson gull wings, 1937; and 15 Norsemen seaplanes, 1944-52.

The purchase of the first Beaver aircraft in 1948 was the beginning of a new efficiency in flying operations. The Beaver and the larger model, the Otter, were designed and built to meet Ministry requirements. The success of these aircraft in Ontario led to their world-wide acceptance.

In spite of difficult flying conditions, only 26 aircraft have been written off in 50 years. The last of 25 flying fatalities occurred in May, 1968.

In recent years, aircraft have been lost in service at Geraldton in 1950, at Temagami in 1951, at Dryden in 1952, at Lauzon Lake in 1953, at Ear Falls in 1959, and at Kenora in 1961.

In 1965 an aircraft modernization program was initiated with the purchase of six new Turbo Beavers. A total of 28 were acquired to replace the standard Beavers. Three Twin Otters, one Model 60 Beechcraft Duke and one King Air were also acquired. Six CS2F Grumman Tracker aircraft were purchased and converted for chemical fire bombing.

In 50 years, 1924-74, pilots with the Ontario Provincial Air Service flew a total of 533,652 hours.

During the past year, Ministry aircraft flew a total of 15,455 hours and delivered loads that weighed a total of 12,686 tons.

Nineteen mercy and emergency flights were made to rescue ill and injured persons from isolated locations. These flights accounted for 41 flying hours.

The Ministry fleet of 43 aircraft operated out of 19 bases of which 11 are open the year round.

ENGINEERING SERVICES BRANCH

The Engineering Services Branch supplied support in those aspects of Ministry programs requiring professional engineering, engineering technology and construction expertise.

Projects undertaken included reports, pre-engineering, design, construction and maintenance of dams, docks, navigation locks and other hydraulic structures and facilities as well as improvements to flow channels and dredging.

PRE-ENGINEERING & DESIGN

Projects included dams at Sturgeon Lake, Lyell Lake, Westport, Trout Lake, Longbow Lake, Net Creek, Gin Creek, Paugh Lake and Mud Lake. Other projects included floating docks for Thunder Bay and Geraldton Air Bases; an experimental fish pass at Denny's Dam; studies for bridges at Champlain, Algonquin, Bon Echo and Ouimet Canyon Provincial Parks and for control of shore erosion at Darlington Provincial Park.

Studies undertaken by consulting engineering firms, under the direction of the Branch, included water supply improvement for the Chatsworth Trout Rearing Station, feasibility of a boat transfer facility on the Rainy River at Fort Frances, and a condition appraisal of privately owned dams in northwestern Ontario.

CONSTRUCTION

Staff completed the construction or reconstruction of water control structures at Lyell Lake, Boundary Marsh, Pine River, Longbow Lake, South River, Graham Lake, Clearwater West lake, Loxton lake, Hinsburger lake, Twenty-Seven Lake, Net Creek and Trout Lake.

Aretaining wall was built at Thunder Bay Air Service Base. The fish pass on the McIntyre River at Lakehead University was modified, and a further test installation for an experimental fish pass was made at Denny's Dam on the Saugeen River.

Construction of groins for bank protection along the Moose River at Moosonee was continued for the Ministry of Treasury, Economics and Intergovernmental Affairs: and Bennett Lake Dam was constructed for the Mississippi Valley Conservation Authority.

MAINTENANCE

Maintenance of hydraulic structures, docks and other works was scheduled on the basis of condition determined from inspection and reports submitted from districts. Routine maintenance was carried out on locks at Huntsville and Port Carling; water main repairs were made at Deer Lake Hatchery; and improvements were made to erosion control works at Fox Estate and to the Midhurst Pond. In addition, two fire towers were removed, in Strong Township and at Parry Sound; and the old theatre at Mattachewan was demolished. Maintenance work was carried out on 48 dams and nine docks.

IMPROVEMENTS TO FLOW CHANNELS

Improvements to flow channels by clearing debris and dredging by widening and deepening of flow channels is carried out to increase the efficiency in discharging water from Ministry owned dams, to improve flow between controlled waters, or to decrease downstream flooding resulting from the Ministry's operation of a dam. under this program, floatwood was removed from the Ombabika River Dam.

WATER RESOURCES ENGINEERING

Responsibility for the management of water resources is undertaken through administration of The Lake and Rivers Improvement Act. Thirty-eight approvals of sites and plans for dam construction under the Act were granted. Nine investigations were made of water regulation problems, of which eight were concerning construction or operation of private dams, and one was concerning a stream diversion.

ACCESS ROADS

A total of 4,562 miles of forest access, logging access and Ministry service roads were maintained.

Under Part II of The Public Lands Act, 40 roads comprising 626 miles are designated as public forest roads for the purpose of exercising control by Ministry personnel.

Four hundred and thirteen miles of private forest roads, constructed by industry, are presently under agreement for recreation and travel by the general public. It is expected that this mileage will be increased by 81 miles in 1975-6.

FLEET AND MECHANICAL EQUIPMENT

The Ministry vehicle fleet has been increased during the past year by some 52 units, raising the fixed complement to 1,552 units. The tractor and all-terrain vehicle complement was increased by 44 units to a total of 262. The largest increase was 204 boat and equipment trailers, bringing the complement to 754. Snowmobiles increased by 60 units, bringing the present total to 512. A refrigerated semi-trailer van was acquired for storage and transportation of tree planting stock. The passenger-bus complement remains at 17.

Expansion of the timber program and the snowmobile trail-grooming program, in addition to the normal increase, accounts for this rapid increase in one year. Ministry work programs, which have been in high gear, have increased the operating fleet to 1,786 units. The additional 234 units over the regular complement consists of replacement vehicles, and the vehicles which have been replaced will be disposed of during 1975.

The Fleet Management program, implemented in 1969 in the area north of the French and Mattawa Rivers, has proven to be a valuable management tool for analysis of costs and other variables. Consideration is being given to extending the system to include the remainder of the province and completing re-design of the program by April, 1976, to make it even more useful.

Reorganization of the Visual Identity Manual, covering Ministry vehicles and mechanical equipment, was completed, and the manual was released for distribution. The coloured illustrations and markings contained in it set out the colour combinations for tractors and related types of equipment, all-terrain vehicles and boats, in addition to vehicles.

GREAT LAKES SHORELINE

The extension service program, maintained by the Branch as one of the provincial assistance programs available to shoreline property owners on the Great Lakes, was continued through the year. Under this program, engineers are made available on request to inspect shore properties along the Great Lakes and suggest to the owners methods by which they may undertake to protect their properties against flooding and erosion. The demand for extension service under this program decreased considerably from the demand in 1973.

Ontario also entered into an agreement with the Government of Canada to undertake a joint survey to determine the nature and extent of shore damages, and to make preliminary recommendations aimed at more effective shore management. The final products of this survey will be a Technical Report and a Coastal Zone Atlas.

CONSERVATION AUTHORITIES BRANCH

Conservation Authorities Branch differs from other branches of the Ministry in that the programs it supports are carried out by autonomous, corporate bodies established as Conservation Authorities under The Conservation Authorities Act.

The 38 Conservation Authorities cover most of southern Ontario and areas around Thunder Bay, Sault Ste. Marie, Timmins, Sudbury and North Bay. Each Conservation Authority provides for, and requires, local initiative, involvement and participation in conservation works – a system which assures that local interest and priorities will be recognized.

Conservation Authorities are established through resolutions from one or more municipal councils petitioning the Minister of Natural Resources to call a meeting for that purpose. If agreed upon, the Conservation Authority is established by Order-in-Council. The boundaries of a Conservation Authority are determined by the Minister on a watershed basis, and its membership consists of representatives, frequently council members, of all municipalities wholly or partially within the watershed.

Conservation Authorities have placed special emphasis on water control, but they may undertake almost any project related to the conservation of renewable natural resources. In recent years, increasing attention has been given to outdoor recreation, outdoor education, forest management, fish and wildlife management, and land use. Funds may be raised by making levies on member municipalities and by receiving grants from the Province.

Eleven Conservation Authorities employ resource managers to supervise their programs under the direction of the chairman, and nine share the services of resource managers with other Conservation Authorities. The remaining eighteen are supplied with resource managers by the Province. Technical staff and work force are hired by the Conservation Authorities.

Conservation Authorities relate to the ministry's field organization at the regional level. They are under the control of the Ministry only insofar as the regulations they make must have Cabinet or ministerial approval, and projects receiving grants must have ministerial approval.

The objective of Conservation Authorities Branch is to provide services and recommend policies that will promote the effectiveness of Conservation Authorities and harmonize their programs with those of the Ministry.

GRANTS TO AUTHORITIES, 1974-5

Including Supplementary under The Conservation Authorities Act

Ausable-Bayfield C.A.	$ 308,575.38
Cataraqui Region C.A.	284,135.61
Catfish Creek C.A.	36,944.97
Central Lake Ontario C.A.	924,480.96
Credit Valley C.A.	1,085,989.96
Crowe Valley C.A.	110,031.65
Essex Region C.A.	188,597.98
Ganaraska Region C.A.	75,737.70
Grand River C.A.	6,795,489.53
Halton Region C.A.	1,439,776.76
Hamilton Region C.A.	1.319,277.89
Nickel District C.A.	234,010.97
Kettle Creek C.A.	113,343.57
Lakehead Region C.A.	295,098.10
Long Point Region C.A.	167,492.14
Lower Thames Valley C.A.	409,811.53
Lower Trent Region C.A.	124,004.75
Maitland Valley C.A.	143,059.02
Mattagami Valley C.A.	253,581.13
Metropolitan Toronto & Region C.A.	7,121,230.01
Mississippi Valley C.A.	335,613.25
Moira River C.A.	540,816.24
Napanee Region C.A.	484,817.73
Niagara Peninsula C.A.	493,786.80
North Bay-Mattawa C.A.	95,535.00
North Grey Region C.A.	698,374.43
Nottawasaga Valley C.A.	312,278.24
Otonabee Region C.A.	217,873.90
Prince Edward Region C.A.	135,795.68
Raisin Region C.A.	92,960.52
Rideau Valley C.A.	185,520.48
Sauble Valley C.A.	82,655.46
Saugeen Valley C.A.	361,301.49
Sault Ste. Marie Region C.A.	1,145,191.12
South Lake Simcoe C.A.	495,246.16
South Nation River C.A.	67,460.85
St. Clair Region C.A.	373,457.19
Upper Thames River C.A.	724,869.06
Total	28,276,126.21

Grants to Municipalities under The Parks Assistance Act	$ 325,588.00
Grants to Conservation Authorities under SWEEP	$ 2,014,176.00

BRANCH ADMINISTRATION COSTS

Field Services	$ 583,500.00
Engineering and Technical Services	399,009.00
General Administration	274,550.00
Field Surveys	127,494.00
Junior Conservation Program	51,038.00
Total	1,435,591.00

FINANCE AND ADMINISTRATION DIVISION

LEGAL SERVICES BRANCH

During the fiscal year year commencing with April 1, 1974, and ending with March 31, 1975, amendments were effected to two Statutes administered by this Ministry, and one new Statute was enacted. Amendments were made to The Forest Fires Prevention Act (by Statutes of Ontario 1974, chapter 22); and to the Mining Tax Act, 1972 (by Statutes of Ontario 1974, chapter 132). The Algonquin Forestry Authority Act, 1974 was enacted (by Statutes of Ontario 1974, chapter 99).

Seventy-eight regulations made under the authority of acts administered by the Ministry and 462 orders-in-Council were prepared and processed through the Branch during the fiscal year.

One Federal-Provincial co-operative agreement relating to the Canada-Ontario Rideau-Trent-Severn (CORTS) study and the establishment of a CORTS Advisory Committee and a CORTS Agreement Board was processed through the Branch.

NORTHERN AFFAIRS BRANCH

The Branch is a supporting service for all government agencies doing business in northern Ontario. It has a small co-ordinating office in Toronto and three regional and 24 "storefront" offices in the north. Small communities are served by 50 satellite offices manned on a volunteer basis by employees of other government agencies.

Northern Affairs offices provide information and aid citizens with problems related to all levels of government. They are active as a "government bookstore," carrying pamphlets and forms for many programs and distributing approximately 10,000 publications per month.

North Affairs Officers provide services and facilities and perform specific functions for other agencies. They hold letters of authority under several Acts administered by other ministries, and in many cases they operate across ministerial lines.

Transactions handled in	1971	58,492
	1972	80,958
	1973	132,975
	1974	164,851

INFORMATION BRANCH

The Branch worked through various media during the past fiscal year to disseminate information on the protection and management of the natural resources under the Ministry's administration.

Information services in Regions and Districts were coordinated more closely with Branch services during the year.

INFORMATION SERVICES

The Branch prepared and managed Ministry exhibits at seven major shows during the year. Small exhibits were supplied on request for schools, libraries and communities. Display material was supplied to Districts which were responsible for Ministry exhibits at 70 annual shows and various one-time events.

Documentary material was prepared and supplied to TV stations. Arrangements were made for professional staff to appear on numerous talk shows.

Outdoors Ontario, a radio series, was supplied to 47 stations and supplemented with *Touch Wood,* a semi-annual selection of announcements. Special material was prepared on request.

Illustrated lectures were given to schools, youth groups, service clubs and outdoor associations.

The Film Library made 1,863 film loans to field offices from its total of 323 titles. The Photograph Library supplied prints and slides on request. Staff photographers completed the photography requested by main and field offices.

Information was mailed to 42,500 persons who requested material on fish, wildlife, parks, forest trees, minerals, Crown lands and waters, or outdoor recreation.

The Ministry's weekly newsletter was mailed to 3,100 news outlets and special-interest groups, and the French translation went to 180 outlets. Urgent news was delivered directly to major outlets. Additional material was supplied on request to editors and broadcasters.

The year's publications included the standard annuals and numerous technical papers and reports. A total of 11 booklets, six folders and six leaflets were reprinted to meet the public demand. New Ministry releases included the following:

Who We Are – What We Are Doing For You (A folder explaining Ministry services to public)
Resources for Education Outdoors (Prepared in conjunction with Ministry of Education for Boards of Education)
The Firebirds (A history of the Ministry's air service, 1924-74) ($6.95)
South Lakr Simcoe Conservation Report
Quaternary Geology of the Woodstock Area ($1.50)
Geology of Pontiac and Ossian Townships $1.25)
Renewing the Forest (folder)
Woodlot Improvement (major revision)
Normal Yield Tables (metric)
Herbicides for Use in Forest Tree Planting (A guide for the private landowner)
Exploratory Trawling in Lake Ontario
Ontario's Lake Erie Commercial Fishery
Toronto Angling Areas (leaflet)
Shrubs for Wildlife (leaflet)
Backyard Habitat (Reprint from 'Ontario Naturalist' of material prepared by Ministry staff)
The Rideau-Trent-Severn, and The Quinte-Kingston Area (Two CORTS reports, each $3.00)

SAFETY PROGRAMME DEVELOPMENT SECTION

Vehicle drivers on staff were trained and tested throughout the year, and the Ministry's certificate for vehicle drivers was issued to qualified drivers in main and field offices.

A total of 20,840 new hunters was trained in safe firearm handling, hunting regulations, bush survival, cold water survival, and hunter-farmer relationships. The training was given by 1,046 instructors certified by the Ministry.

Supervisors were trained in methods of safety instruction, and foremen were given a course in job instruction.

Fire crews were given a one-day course in safe working practices during their fire suppression training.

Courses on the safe handling of boats were given to employees who use boats in their work. Selected employees were trained in the safe operation of snowmobiles and chain saws. Conservation Officers were instructed in the safe handling of side arms and sporting weapons.

First-aid training was given on a regular basis to staff. It included St. John Ambulance methods, Red Cross methods and the use of resuscitators. General instruction included the Lateiner method of accident control and the maintenance of fire extinquishers.

Parks and work camps were inspected for safety and sanitation. Beach patrols were given rigorous tests in lifesaving practices and the use of resuscitators.

At the request of the Ministry, the Ontario Safety League gave a series of courses to visitors in Provincial Parks on safe practices in canoeing, camping and outdoor living.

Workmen's Compensation – A total of 999 compensable claims were accepted during the year, and the Ministry's costs amounted to $423,302.57, including pensions and administrative charges. The lowest injury frequency rate was 12.8, attained by Northeastern Region.

ADMINISTRATIVE SERVICES BRANCH

Operations Section

OFFICE MANAGEMENT

This Unit is responsible for the design, standardization, issuance and replacement of uniforms. The existing 23 uniform types are being reduced in number and redesigned. All uniformed ministry staff should have a new look by fall, 1976. Other responsibilities include the following.

1. The continual updating of the ministry's listing in telephone directories across the province.
2. Preparation of input information for the government telephone directory.
3. The issuance of 1,500 telephone credit cards.
4. The issuance of identification cards (five types) and emergency pass cards to ministry staff.
5. All branch personnel and accounting functions.
6. The distribution of all government manuals and their revisions, as well as the ministry's policy and procedure directives and key personnel directory.
7. The equipment inventory control system and main office equipment inventory control records.
8. The management of over 200,000 active Crown Land files and the several incoming documents that necessitate the recording of over 140 entries daily on the cross reference index system, and the retrieval of over 255 files daily.

The Branch is a support group offering the administrative services that lie outside the personnel and financial fields.

PURCHASING

This Unit is vitally concerned with matters of demand and supply for furnishing the means by which the ministry's work is maintained and furthered. Due to continuing expansion and reorganization, purchasing activity was at full pace. Basically, it is a matter of supply an; demand with the Purchasing Section ensuring that the ministry's requirements are met immediately, economically, and with the best quality available. Over-all value is required for money expended.

With the many urgent and complex issues encountered due to the economic crises throughout the year and the resultant shortages of commodities, substitution and postponement were involved in some instances. Among the lengthy list of purchases were the acquisition of anti-freeze, lumber, litter and garbage bags, fish food, motor vehicles, safety hard hats, research equipment, uniform items, tree nursery equipment, fire hose, tires, office machines and field party equipment.

Over 27,000 requisitions were received, resulting in the issuance of some 12,000 purchase orders, 13,424 central stationery requisitions, 748 central duplicating requisitions, 612 requisitions for telephone work, and 1,522 printing requisitions.

CENTRAL SUPPLY WAREHOUSE

The Unit received a total of 650 tons of supplies and equipment at the King Street warehouse. Shipments, totalling over 286 tons, were made by express, freight, transport, mail and by internal supply to Ministry offices. The Whitney Block stockroom distributed supplies for the Whitney Block from the main warehouse on King Street.

Approximately 50 types of licences and permits were distributed to field offices and 4,000 private agents who sell licences to the public. The licences and permits total over 3½ million, and include hunting, angling, bait-fish, roll-net, frog, trapping, guide, duck, provincial park permit, etc.

Ministry uniforms were shipped from stock to personnel upon receipt of a requisition. The whiteprint copy centre prints maps for the Division of Mines publications office for distribution to the public. These copies total over 41,000.

There was liaison with the Ministry of Government Services on Ministry activities pertaining to the Government Visual Identity Program, mail services, and co-ordinating interoffice communications within the Ministry.

Services Section

ACCOMMODATION OFFICE

The accommodation office is responsible for the directing and co-ordination approval of all leasing transactions and land purchases for the erection of buildings as well as their construction and maintenance; the preparation of the Ministry master accommodation plan and the establishment of immediate, medium and long range accommodation objectives; the co-ordination of the funding requirements for all general and special-purpose facilities involving major and minor capital improvements; the planned program for the inspection of Ministry facilities to promote and improve communication between field and main office; and the maintenance of official liaison with the Ministry of Government Services in all matters pertaining to accommodation, including provision of funds.

PUBLIC SERVICE CENTRE

A consolidation of the Mines Publications Office and the Aerial Photo Library with the Map Office at the last named location will enable the Ministry to provide more efficient and effective service to the public and government agencies.

The Centre will be responsible for the sale and distribution of Ministry publications including geological maps, reports and circulars and other technical mining publications, as well as geographical maps, forest resources inventory maps, lake contour maps and the Provincial Topographic map series. The National Topographic map series and publications of the Ministry of Transportation and Communications will also be available.

Copies of aerial photographs in contact or enlarged format will be sold at the Centre.

Hunting and fishing licences will be sold at the Centre during the 1975-6 fiscal year.

A.D.P. KEY PUNCH UNIT

This Unit accepts for keying the source documents for the Ministry's production data processing systems; schedules computer runs and sees that the desired reports are distributed to user-branches; maintains Ministry magnetic tape library; administers the Ministry's magnetic tapes retained in the library of the Central Computing Branch; and keys the data from source documents on to magnetic tape or punched cards in a predetermined format. The cards or tape are interpreted by the Ministry's computer programs to produce the desired reports. Approximately two million records are keyed annually.

Records/Forms Management Section

This Section is the operating arm of the Ministry Records Management Committee. The Committee ensures that the Ministry complies with The Manual of Administration Directive and The Archives Act and that the goals and objectives of the Ministry agree with those of the government as a whole. The Section is formally divided into two distinct units: Records Management and Forms Management.

The Records Management Unit is responsible for maintaining an accurate inventory of all records, records equipment and microrecording equipment; control over the initiation, maintenance, protection, retention and disposition of all Ministry records; conducting feasibility studies regarding all microrecord systems and submitting all proposals to the Ministry Records Management Committee; conducting training seminars for the Ministry in all aspects of records management; and developing Ministry file classification plans.

The Forms Management Unit is responsible for establishing, maintaining and reviewing an inventory of Ministry forms; reviewing and approving all requests for forms printing; improvement in design of necessary forms by adherence to Ministry and Government-wide design standards; providing forms analysis and design service to users to ensure that Ministry forms will accomplish necessary operations in the most efficient and economical manner to achieve the desired results; conducting in-depth analysis of all Ministry forms to simplify the flow of each form in use in a system, and to simplify the preparation and handling of the form by removing all superfluous and redundant data with emphasis on consolidation, standardization and elimination; providing technical guidance to form originators; and conducting training seminars in forms management and design for Ministry personnel.

PERSONNEL BRANCH

SENIOR ADMINISTRATION STAFF MARCH 31, 1975

DEPUTY MINISTER	Dr. J. K. Reynolds

ASSISTANT DEPUTY MINISTERS

- L. Ringham, *Northern Ontario*
- W. T. Foster, *Southern Ontario*
- A. J. Herridge, *Resources and Recreation*
- J. W. Giles, *Lands and Waters*

REGIONAL DIRECTORS

- J. R. Oatway, *Northwestern (Kenora)*
- R. A. Baxter, *North Central (Thunder Bay)*
- G. A. McCormack, *Northern (Cochrane)*
- J. M. Hughes, *Northeastern (S. S. Marie)*
- J. S. Ball, *Algonquin (Huntsville)*

T. W. Hueston, *Eastern (Kemptville)*
A. H. Peacock, *Central (Richmond Hill)*
W. H. Charlton, *Southwestern (London)*

EXECUTIVE DIRECTORS

J. W. Lockwood, *Division of Forests*
G. A. Jewett, *Division of Mines*
K. K. Irizawa, *Division of Fish and Wildlife*
J. W. Keenan, *Division of Parks*
L. H. Eckel, *Division of Lands*
W. G. Cleaveley, *Field Services Division*
G. D. Spry, *Finance & Administrative Division*

DIRECTORS

R. M. Dixon, *Forest Management Branch*
D. P. Drysdale, *Timber Sales Branch*
D. H. Burton, *Forest Research Branch*
Dr. E. G. Pye, *Geological Branch*
Dr. T. P. Mohide, *Mineral Resources Branch*
D. A. Moddle, *Mineral Research Branch*
P. B. McCrodan, *Mines Engineering Branch*
D. R. Johnston, *Wildlife Branch*
K. H. Loftus, *Sport Fisheries Branch*
M. J. Brubacher, *Commercial Fish & Fur Branch*
J. D. Roseborough, *Fish & Wildlife Research Branch*
R. H. Hambly, *Park Management Branch*
T. E. Lee, *Park Planning Branch*
R. G. Bowes, *Historical Sites Branch*
J. McGinn, *Lands Administration Branch*
R. J. Burgar, *Land Use Co-ordination Branch*
R. G. Code, *Surveys and Mapping Branch*
W. L. Sleeman, *Forest Fire Control Branch*
T. C. Cooke, *Air Service Branch (S. S. Marie)*
S. B. Panting, *Engineering Services Branch*
A. D. Latornell, *Conservation Authorities Branch*
A. C. Goddard, *Financial Management Branch*
R. V. Scott, *Northern Affairs Branch*
H. B. Farrant, *Personnel Branch*
J. A. Queen, *Administrative Services Branch*
F. Moritsugu, *Information Branch*
Dr. W. R. Henson, *Policy Research Branch*

DISTRICT MANAGERS

W. D. Adlam, *Ottawa District*
R. P. Alton, *Wawa District*
E. N. Arbuckle, *Espanola District*
J. R. Bailey, *Moosonee District*
R. G. Bailey, *Napanee District*
M. P. Barker, *Atikokan District*
L. L. Bronson, *Pembroke District*
W. H. Cantelon, *Tweed District*
W. R. Catton, *Cambridge District*
J. K. Cleaveley, *Geraldton District*
D. J. D'Agostini, *Fort Frances District*
P. R. Davidson, *Aylmer District*
J. E. Dickenson, *Niagara District*
C. Dionne, *Gogama District*
T. E. Dodds, *Ignace District*
C. E. Emblin, *Hearst District*
H. P. Endress, *Dryden District*
E. W. Everley, *Red Lake District*
D. R. Fortner, *Chatham District*
E. G. Gillespie, *Kenora District*
O. Goodman, *Bancroft District*
C. R. Gray, *Lindsay District*
L. J. Haas, *Terrace Bay District*
D. L. Hagar, *Blind River District*
J. E. Hamilton, *Thunder Bay District*
G. O. Koistinen, *Nipigon District*
J. H. Lever, *Algonquin Park District*
R. G. Lightheart, *Kapuskasing District*
W. J. Lovering, *Owen Sound District*
W. D. Mansell, *Wingham District*
R. B. McGee, *Simcoe District*
D. E. McHale, *Sudbury District*
J. G. Minor, *Kirkland Lake District*
J. R. Morin, *Cornwall District*
D. O'Grady, *White River District*
A. F. Papineau, *Timmins District*
W. R. Peck, *Parry Sound District*
C. E. Perrie, *Sioux Lookout District*
E. Rogers, *North Bay District*
J. E. Rumney, *Temagami District*
W. D. Schafer, *Huronia District*
J. H. Sellers, *Sault Ste. Marie District*
F. E. Sider, *Maple District*
J. M. Small, *Chapleau District*
R. W. Tippett, *Bracebridge District*
R. H. Trotter, *Brockville District*
W. Vonk, *Lanark District*
D. D. White, *Minden District*
G. A. Wright, *Cochrane District*

TOTAL STAFF March 31, 1975

	Regular	Probationary	Unclassified	Total
Main Office	771	340	174	1,285
Field Offices	2,534	439	1,736	4,709
TOTAL	3,305	779	1,910	5,994

Total Complement	4,311
Vacancies in Complement	254
Regular and Probationary Staff	4,084
New Employees Hired, 1974-5	386
Junior Rangers (summer casuals, 1974)	1,493

PROFESSIONAL STAFF March 31, 1975

Biologists	115
Engineers	24
Engineers of Mines	32
Foresters	240
Geologists	58
Park Planners	23
Scientists	50
Miscellaneous	50
TOTAL	592

STAFF TURNOVER* March 31, 1975

Deceased	11
Transferred	21
Resigned	206
Dismissed	1
Released	5
Superannuated	80
Miscellaneous	20
TOTAL	344

**The ratio of separations to total regular and probationary staff at March 31, 1975, was 8.5 per cent.*

FINANCIAL MANAGEMENT BRANCH

This Branch provides accounting and financial administrative support services for the Ministry. It maintains main office records of revenue and expenditure, prepares financial statements, and supervises and co-ordinates the accounting functions of the divisional and field offices. Its responsibilities include budget preparation and control, development of accounting and costing systems, financial and cost analyses, pre-audit controls and procedures, and financial liaison with Management Board of Cabinet, the Provincial Auditor, and other ministries and agencies. The internal audit section provides a continuing review and assessment of accounting, financial and operational controls.

Financial Report for Year Ended March 31, 1975

Statement of Revenue

For Year Ended March 31, 1974 — *Statement No. 1*

MINISTRY ADMINISTRATION			
Recovery of Prior Year's Expenditures		$ 15,219	
Sale of Maps, Publications, etc.		380,874	
Rentals – Ministry Houses		347,971	$ 744,064
LAND MANAGEMENT			
Recovery of Prior Year's Expenditures			
Conservation Authorities	$ 488,156		
Land Acquisition	54,548		
Air Service	37,857		
Miscellaneous	19,275	$ 599,836	
Taxation – Mines Acreage Tax		697,562	
Royalties – Forest Protection Charges		1,837,245	
Fees and Licences – Mines		496,392	
Public Domain			
Gas and Mining Leases	$ 990,396		
Leasing and Licensing of Lands	780,326	1,770,722	
Sales			
Land and Buildings	$ 231,369		
Recovery Fire Fighting Costs	80,305		
Equipment	4,976		
Air Service Flying Fees	531		
Sundry Sales	19,507	336,688	
Reimbursements of Expenditures – Government of Canada			
ARDA – Conservation Authorities	$ 501,690		
ARDA – Flood Control for Agricultural Lands	74,250		
Dams, Reservoirs and Channel Improvements	327,951		
Flood Hazard Mapping	47,388	951,279	6,689,724
OUTDOOR RECREATION			
Recovery of Prior Year's Expenditures			
Federal Sales Tax – Old Fort William Historical Park	$ 172,146		
Inverhuron Park Project	82,139		
Nanticoke Agreement	7,650	$ 261,935	
Recreation Areas			
Park Entrance and Camping Fees	$ 4,454,613		
Park Concessions	161,690		
Park Miscellaneous	27,675	4,643,978	
Historical Sites			
Fees	$ 154,060		
Sales	25,857	179,917	
Fish and Wildlife			
Hunting and Fishing Licences	$10,632,875		
Royalties	310,968		
Confiscated Articles	41,489		
Miscellaneous – Fish and Wildlife	93,293	11,078,625	
St. Lawrence Parks			
Fees	$ 1,495,828		
Sales	1,022,781		
Facilities	80,969		
Land and Building	31,135		
Miscellaneous	10,567	2,641,280	
Carried Forward		$ 18,805,735	$ 7,433,788

Statement of Revenue (Continued)

For Year Ended March 31, 1975

Brought Forward		$ 18,805,735	$ 7,433,788
Frost Centre			
Facilities		$ 173,450	
Reimbursements of Expenditures – Government of Canada			
ARDA – Park Improvements		68,882	19,048,067
RESOURCE DEVELOPMENT			
Renewable Resource Development			
Recovery of Prior Year's Expenditures			
Logging Roads – Construction Costs		$ 24,397	
Forest Management			
Stumpage	$19,975,598		
Forest Products	215,046		
Stock Production	200,566		
Forest Management	133,588		
Miscellaneous Timber	25,517	20,550,315	
Reimbursement of Expenditures Gov't of Canada			
Forest Management			
ARDA – Private Land Forestry	$ 500,000		
ARDA – Forest Stand Improvement	126,111		
ARDA – Grants to Municipalities and Conservation Authorities	68,952		
Commercial Fish and Fur			
Resource Development Agreement	236,796		
Freshwater Fish Marketing Agreement	49,302		
Industrial Development Agreement	6,939	988,100	21,562,812
NON-RENEWABLE RESOURCE DEVELOPMENT			
Mineral Management			
Recovery of Prior Year's Expenditures			
Mine Rescue Stations – Recovery of Operational Costs		$ 94,849	
Mining Tax		152,105,039	
Royalties		763,939	
Fees Licences		122,902	
Miscellaneous		8,526	153,095,255
MISCELLANEOUS			
Recovery of Prior Year's Expenditures			9,423
TOTAL REVENUE			$201,149,345

Total Expenditures Allocated to Main Services

For Year Ended March 31, 1975

PROGRAMS	Activity Total $	Sub-Activity Total $	Land Management $
MINISTRY ADMINISTRATION			
(Pro-rated by Operating Activities)			
Main Office	2,560,263	2,560,263	207,637
Field Offices	6,879,203	6,879,203	557,903
Financial Management	2,245,452	2,245,452	182,106
Administrative Services	2,082,242	2,082,242	168,870
Information Services	1,667,535	1,667,535	135,237
Personnel	589,023	589,023	47,770
Junior Rangers	1,780,492	1,780,492	112,332
Northern Affairs	971,133	971,133	
Youth Corps (S.W.O.R.D.)	3,620,222	3,620,222	419,222
	22,395,565	22,395,565	1,831,077
LAND MANAGEMENT			
Program Administration (pro-rated by Activities	942,532	942,532	200,571
Land and Water Protection	16,713,686		
Protection Services		5,049,326	642,779
Communications		736,345	62,442
Fire Control		6,560,617	
Equipment and Plant Operation		2,656,752	225,293
Recreation Oriented Water Facilities		1,147,016	802,911
Flood & Erosion Control Facilities		167,530	117,271
Ministry Service Facilities		396,100	277,270
Air Service	2,531,005	2,531,005	168,565
Extra Fire Fighting	8,824,741	8,824,741	
Resource Access	9,497,082		
Forest & Logging Access Roads		3,956,115	269,294
Crown Land Subdivision and Ministry Service Roads		292,656	26,046
Recreation Access, Public Transport and Agreement Roads		875,925	77,957
Northern Ontario Resources Transportation Roads		4,372,386	1,661,507
Land & Water Classification	5,485,752		
Lands Service		754,424	360,539
Surveys and Mapping		3,047,369	1,230,438
Inventory		961,325	308,218
Land Use Co-ordination		722,634	722,634
Land, Water and Mineral Title Administration	4,927,707		
Land, Water and Mineral Title Service		1,218,746	555,431
Public and Mining Lands		3,708,961	3,021,601
Conservation Authorities	29,777,839		
Conservation Service		1,501,713	
Grants		28,276,126	
Land Acquisition	7,432,570	7,432,570	77,795
	86,132,914	86,132,914	10,808,562
OUTDOOR RECREATION			
Program Administration (Pro-rated by Activities)	1,977,603	1,977,603	
Recreational Areas	29,116,395		
Parks and Historical Sites Services		11,681,446	
Crown Land Recreation Management		972,662	
Park Management		10,030,944	
Park Planning Project		1,523,792	
Park Development Projects		4,907,551	
Fish and Wildlife	12,628,081		
Fish and Wildlife Service		3,522,136	
Wildlife		3,198,046	
Fisheries		5,907,899	
St. Lawrence Parks Commission	4,807,389	4,807,389	
	48,529,468	48,529,468	

Statement No. 2

Environmental Protection	Parks & Historical Sites	Fish & Wildlife	Forest Management	Mineral Management	Conservation Authorities	Others
$	$	$	$	$	$	$
397,353	729,675	324,897	658,244	207,381	35,076	
1,067,652	1,960,573	872,971	1,768,643	557,216	94,245	
348,494	639,954	284,948	577,306	181,881	30,763	
323,164	593,439	264,236	535,344	168,662	28,527	
258,802	475,248	211,610	428,723	135,070	22,845	
91,416	167,871	74,747	151,438	47,711	8,070	
311,677	785,959	112,421	457,566	537		
						971,133
392,432	940,172	1,190,691	640,055	37,650		
3,190,990	6,292,891	3,336,521	5,217,319	1,336,108	219,526	971,133
383,987	44,205	46,372	156,272	77,288	33,837	
3,082,109	454,439	357,997	374,660	117,649	19,693	
114,060	209,122	94,179	187,694	58,981	9,867	
6,560,617						
411,531	754,517	339,799	677,206	212,806	35,600	
22,940	57,351	263,814				
3,351	8,377	38,531				
7,922	19,805	91,103				
887,624	186,788	861,048	368,514	46,064	12,402	
8,824,741						
158,043	127,930	211,628	3,174,252	14,968		
21,364	21,657	30,144	193,445			
63,943	64,818	90,220	578,987			
			1,574,059	1,136,820		
		4,979	147,792	213,955	27,159	
			304,522	1,341,993	170,416	
		30,968	622,139			
	417,672	18,773	1,915	224,955		
				687,360		
					1,501,713	
					28,276,126	
	7,007,132	315,512	32,131			
20,542,232	9,373,813	2,795,067	8,393,588	4,132,839	30,086,813	
	1,441,079	536,524				
	11,681,446					
	972,662					
	10,030,944					
	1,523,792					
	4,907,551					
		3,522,136				
		3,198,046				
		5,907,899				
	4,807,389					
	35,364,863	13,164,605				

Total Expenditures Allocated to Main Services (continued)

For Year Ended March 31, 1975

PROGRAMS	Activity Total $	Sub-Activity Total $	Land Management $
RESOURCE PRODUCTS			
Program Administration (Pro-rated by Activities)	994,661	994,661	
Mineral Management	6,395,778		
Mines Service		2,628,013	
Mineral Policy Development and Taxation		303,046	
Industry Support and Safety Service		1,182,128	
Geological Survey, Inventory and Analysis		2,102,991	
Mine Rescue		179,600	
Forest Management	24,904,569		
Forest Service		7,931,584	
Silviculture Operations		7,822,114	
Silviculture Support		4,381,159	
Timber Management		4,769,712	
Commercial Fish and Fur	1,122,714	1,122,714	
	33,417,722	33,417,722	
TOTAL EXPENDITURE	190,475,669	190,475,669	12,639,639
Percentage of Total	100%		6.64%

Environmental Protection $	Parks & Historical Sites $	Fish & Wildlife $	Forest Management $	Mineral Management $	Conservation Authorities $	Others $
		34,415	763,999	196,247		
				2,628,013		
				303,046		
				1,182,128		
				2,102,991		
				179,600		
			7,931,584			
			7,822,114			
			4,381,159			
			4,769,712			
		1,122,714				
		1,157,129	25,668,568	6,592,025		
23,733,222	51,031,567	20,453,322	39,279,475	12,060,972	30,306,339	971,133
12.46%	26.79%	10.74%	20.62%	6.33%	15.91%	.51%

POLICY RESEARCH BRANCH

The Branch functions as a part of the Deputy Minister's office. It is organized to provide research supporting policy development in fields such as environmental quality, Ministry research and development, proposed water diversions, industrial development, unorganized areas of the north, resource prices, resource transportation, resource allocation, recreation demand and supply, and long-range planning. The Branch also provides:

(1) Ministry liaison with other ministries and central agencies of government;

(2) Development of Management Information System and the operation of Ministry libraries;

(3) Technical services in areas such as biometrics, economics, and various areas of biology; and

(4) Technical studies of natural resource management in other areas – notably in the U.S.S.R.

THE MINING AND LANDS COMMISSIONER

The Mining and Lands Commissioner exercises judicial, quasi judicial and administrative powers and duties under The Beach Protection Act, The Mining Act and The Mining Tax Act, 1972, and regulations made under The Ministry of Natural Resources Act, 1972, assigning powers and duties of the Minister to the Commissioner.

Orders and judgements issued under The Mining Act during the fiscal year were as follows:

In addition to hearings under The Mining Act, one hearing lasting 34 days was held under The Beach Protection Act. Two appeals were heard under The Conservation Authorities Act and three such appeals were withdrawn, settled or abandoned. Sittings were held at Kirkland Lake, Timmins, Toronto, Thunder Bay and Windsor.